

Appendix A

Tygart Valley River Watershed Data and TMDLs

Appendix A is divided into 21 separate sections. Each section provides information for a different region of the Tygart watershed. The map on the following page presents the watershed's 21 regions (Figure A). Numeric designation for each Appendix A section corresponds to the same numerically identified region of the Tygart watershed (e.g., Appendix A-3 corresponds to region 3 of the Tygart watershed).

The structure and content of the appendices are as follows:

- **Figure 1**—presents a map of the region, including impaired waterbodies, RF3 stream segments, and subwatersheds used in the model. The subwatershed IDs provide a basis for presenting information in the subsequent tables.
- **Table 1**—lists each impaired waterbody, its corresponding impairment and use designation, all subwatersheds in the region that drain into the impaired waterbody (contributing SWS), and any other regions that drain into the impaired waterbody (contributing regions). Use designations are presented in Section 2 of the main report.
- **Table 2**—lists the subwatersheds in the region that are assumed to contain abandoned mines. These abandoned mines refer to seeps, deep mines, and leaching. They do not include highwall locations or disturbed areas.
- **Tables 3a, 3b, and 3c**—summarize water quality data for water quality monitoring stations in the region. Each table summarizes data for a different metal (aluminum, iron, and manganese). Data are summarized by subwatershed (SWS) and the summary includes averages, minimum, and maximum observed values, as well as the total number of observations (count) and the start and end date of sampling.
- **Tables 4a, 4b, and 4c**—present baseline and allocation information for permitted mine point sources in the region and future growth allocations. Tables a through c present information for different metals. The information is presented by mine permit for each subwatershed. Baseline loads (in lbs/yr) are presented for each mine. The baseline load represents the load estimated under baseline conditions, assuming a constant permitted concentration. This load represents the monthly average permitted discharge (based on existing permit limits), and does not necessarily represent current conditions. This load is presented for comparative purposes. Allocation loads (in lbs/yr) and allocation concentrations (in mg/L) are also presented for each mine. The allocation load represents the WLA. The allocation concentration represents the maximum allowable concentration that will meet the water quality criteria for all conditions. These concentrations were derived from the EPA's *Technical Support Document for Water Quality-based Toxics Control* (USEPA, 1991).

- **Tables 5a, 5b, and 5c**—present baseline and allocation information for nonpoint sources in the

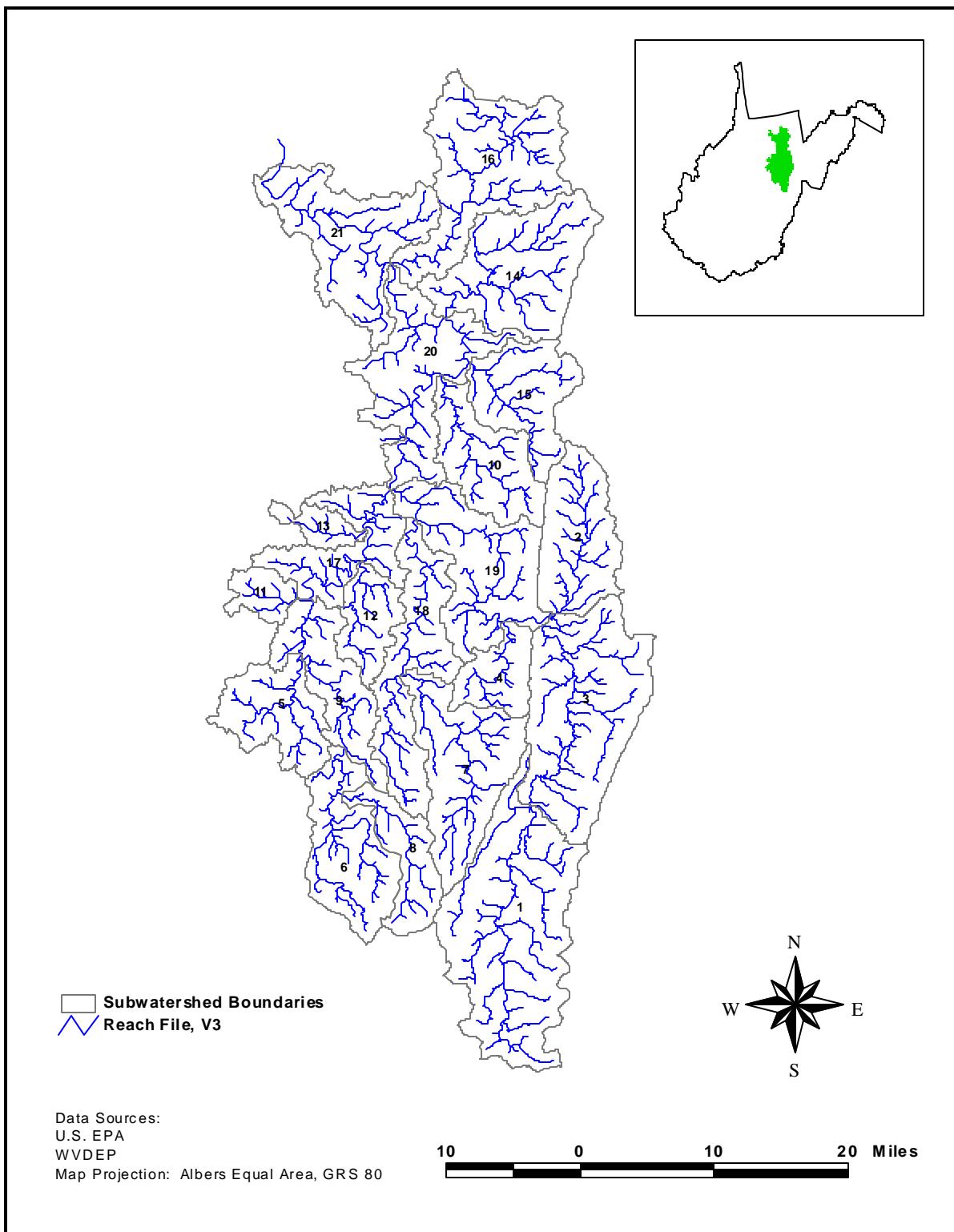


Figure A. Tygart watershed and its 21 regions

region. Each table presents information for a different metal. Baseline and allocation loads (in lbs/yr) are presented by subwatershed for the following nonpoint source categories: AML, other nonpoint sources, and revoked mines. The AML category represents highwalls, disturbed land, strip mines, and abandoned mines. The other nonpoint sources category represents contributions from forest, pasture, cropland, urban (impervious and pervious), wetlands, and barren land. The revoked mines category represents the loading contribution from revoked mines. The baseline loads presented represent nonpoint source contributions under existing conditions. The allocation loads represent the LAs for individual categories. A column entitled “Requires Reduction” is also included to conveniently identify subwatersheds requiring nonpoint source load reductions to meet water quality criteria.

A number of the appendices do not include all of the above listed tables. Appendices A-1, A-2, A-3, A-12, and A-15 represent regions containing no impaired waterbodies. Only Tables 5a, 5b, and 5c and in some cases 4a, 4b, 4c, and are presented for these sections. Appendix A-8 represents the Buckhannon River. Because TMDLs were previously developed for this area, only a summary of the TMDL results are presented. Refer to the 1998 document *Metals TMDL for Buckhannon River, West Virginia*.

Appendix A-1

Region 1

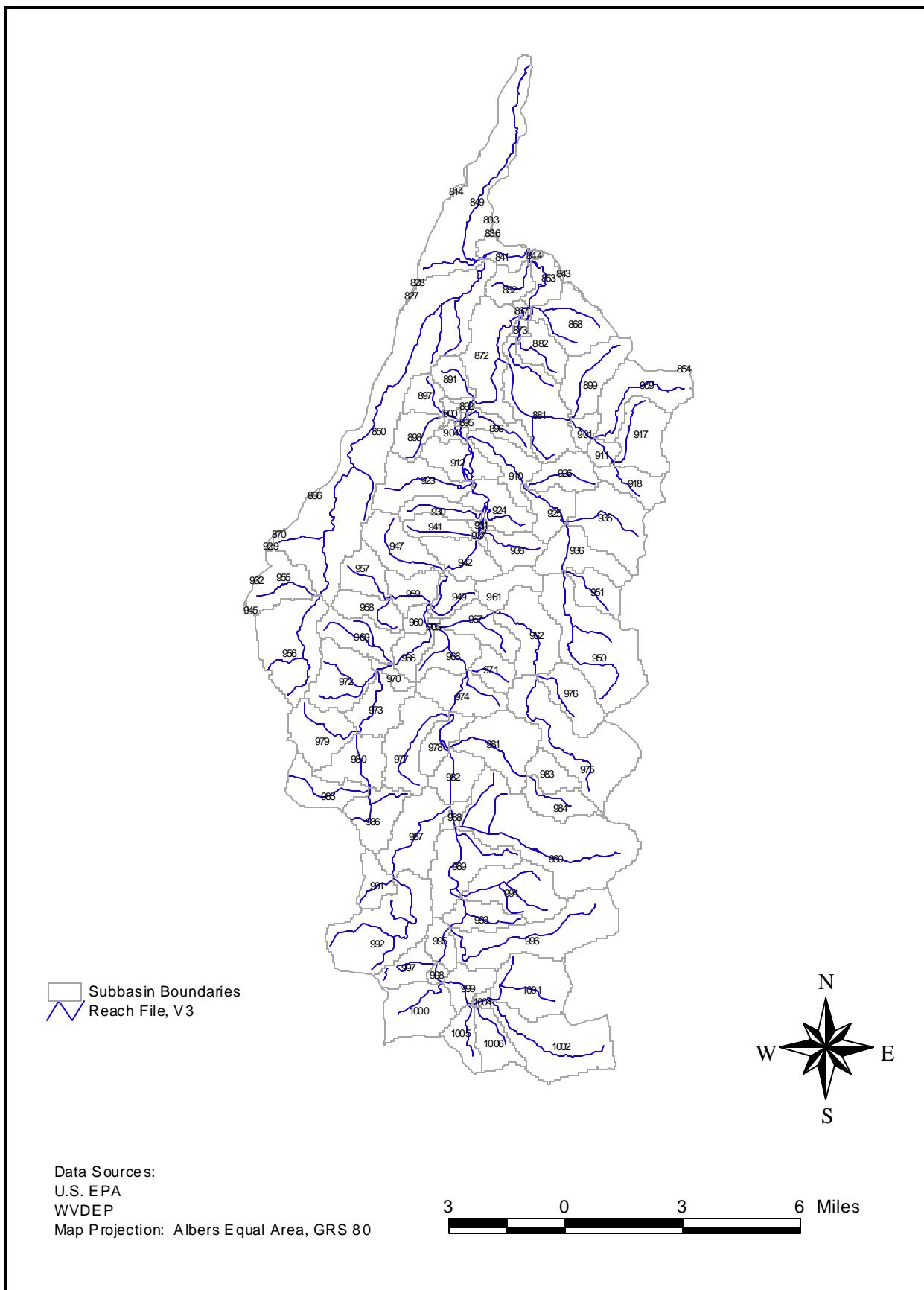


Figure 2. Region 1 - Upstream of the Tygart Valley River, Randolph County

Table 1. Impaired waterbodies in Region 1
(not applicable in this region)

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)
(not applicable in this region)

Table 3a. Water quality data for aluminum
(not applicable in this region)

Table 3b. Water quality data for iron
(not applicable in this region)

Table 3c. Water quality data for manganese
(not applicable in this region)

Table 4a. Aluminum baseline conditions for permitted mining point sources
(not applicable in this region)

Table 4b. Iron baseline conditions for permitted mining point sources
(not applicable in this region)

Table 4c. Manganese baseline conditions for permitted mining point sources
(not applicable in this region)

Table 5a. Aluminum baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
1000	0	1089	0
1001	0	1151	0
1002	0	1404	0
1003	0	12	0
1004	0	68	0
1005	0	587	0
1006	0	581	0
803	0	3964	0
836	0	250	0
837	0	661	0
841	0	824	0
842	0	3	0
843	0	1040	0
844	0	94	0
849	0	2401	0
850	0	8446	0
852	0	1149	0
853	0	986	0
867	0	193	0
868	0	777	0
872	0	3088	0
873	0	311	0
881	0	3151	0
882	0	569	0
891	0	300	0
892	0	154	0
895	0	89	0
896	0	418	0
897	0	295	0
898	0	370	0
899	0	746	0
900	0	94	0
901	0	365	0
904	0	302	0
909	0	927	0
910	0	1704	0
911	0	171	0
912	0	679	0
917	0	701	0
918	0	396	0
923	0	752	0
924	0	729	0
925	0	995	0
926	0	498	0
930	0	326	0
931	0	74	0
935	15	1042	0
936	4	661	0
937	0	106	0
938	0	446	0

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
941	0	312	0
942	0	662	0
947	0	668	0
949	0	333	0
950	8	1696	0
951	0	382	0
955	0	1087	0
956	0	2336	0
957	0	426	0
958	0	404	0
959	0	416	0
960	0	165	0
961	0	366	0
962	0	837	0
965	0	68	0
966	0	333	0
967	0	504	0
968	0	598	0
969	0	561	0
970	0	132	0
971	0	325	0
972	0	737	0
973	0	571	0
974	0	702	0
975	0	1651	0
976	0	584	0
977	0	826	0
978	0	422	0
979	3	705	0
980	0	592	0
981	0	1162	0
982	0	998	0
983	0	358	0
984	0	438	0
985	35	632	0
986	0	733	0
987	0	920	0
988	0	120	0
989	0	958	0
990	5	2665	0
991	0	425	0
992	12	1814	0
993	0	445	0
994	0	1130	0
995	0	314	0
996	0	1604	0
997	0	553	0
998	0	104	0
999	0	429	0
Total	82	81340	0

Table 5b. Iron baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
1000	0	2328	0
1001	0	2558	0
1002	0	3271	0
1003	0	17	0
1004	0	146	0
1005	0	1173	0
1006	0	1129	0
803	0	5311	0
836	0	303	0
837	0	1407	0
841	0	1128	0
842	0	4	0
843	0	2404	0
844	0	116	0
849	0	5578	0
850	0	8060	0
852	0	1348	0
853	0	1215	0
867	0	233	0
868	0	1819	0
872	0	3876	0
873	0	329	0
881	0	4334	0
882	0	1163	0
891	0	692	0
892	0	197	0
895	0	112	0
896	0	854	0
897	0	695	0
898	0	876	0
899	0	1774	0
900	0	198	0
901	0	586	0
904	0	424	0
909	0	2184	0
910	0	2169	0
911	0	402	0
912	0	1493	0
917	0	1645	0
918	0	909	0
923	0	1766	0
924	0	1577	0
925	0	1554	0
926	0	1139	0
930	0	760	0
931	0	99	0
935	32	2433	0
936	8	1545	0
937	0	210	0
938	0	1028	0

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
941	0	734	0
942	0	1467	0
947	0	1578	0
949	0	756	0
950	17	3976	0
951	0	901	0
955	0	1035	0
956	0	2213	0
957	0	1008	0
958	0	956	0
959	0	936	0
960	0	380	0
961	0	860	0
962	0	1987	0
965	0	103	0
966	0	763	0
967	0	1197	0
968	0	1315	0
969	0	1335	0
970	0	309	0
971	0	752	0
972	0	1752	0
973	0	1317	0
974	0	1606	0
975	0	3875	0
976	0	1391	0
977	0	1941	0
978	0	938	0
979	8	1627	0
980	0	1370	0
981	0	2623	0
982	0	1549	0
983	0	825	0
984	1	1028	0
985	78	1454	0
986	0	1445	0
987	0	2118	0
988	0	271	0
989	0	2212	0
990	10	6179	0
991	0	917	0
992	27	3866	0
993	0	1004	0
994	0	2572	0
995	0	681	0
996	0	3705	0
997	0	1068	0
998	0	216	0
999	0	932	0
Total	181	151619	0

Table 5c. Manganese baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
1000	0	429	0
1001	0	452	0
1002	0	578	0
1003	0	6	0
1004	0	27	0
1005	0	227	0
1006	0	233	0
803	0	2098	0
836	0	130	0
837	0	263	0
841	0	444	0
842	0	2	0
843	0	424	0
844	0	52	0
849	0	996	0
850	0	3100	0
852	0	602	0
853	0	509	0
867	0	103	0
868	0	323	0
872	0	1610	0
873	0	162	0
881	0	1670	0
882	0	225	0
891	0	124	0
892	0	79	0
895	0	47	0
896	0	165	0
897	0	124	0
898	0	155	0
899	0	312	0
900	0	39	0
901	0	192	0
904	0	161	0
909	0	387	0
910	0	897	0
911	0	71	0
912	0	265	0
917	0	293	0
918	0	165	0
923	0	311	0
924	0	282	0
925	0	524	0
926	0	203	0
930	0	134	0
931	0	40	0
935	14	431	0
936	4	275	0
937	0	40	0
938	0	182	0

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
941	0	129	0
942	0	261	0
947	0	278	0
949	0	138	0
950	8	707	0
951	0	159	0
955	0	394	0
956	0	848	0
957	0	180	0
958	0	173	0
959	0	170	0
960	0	68	0
961	0	153	0
962	0	351	0
965	0	36	0
966	0	136	0
967	0	211	0
968	0	233	0
969	0	235	0
970	0	55	0
971	0	139	0
972	0	308	0
973	0	238	0
974	0	290	0
975	0	721	0
976	0	245	0
977	0	344	0
978	0	170	0
979	3	292	0
980	0	245	0
981	0	572	0
982	0	523	0
983	0	160	0
984	0	194	0
985	34	260	0
986	0	293	0
987	0	380	0
988	0	49	0
989	0	404	0
990	5	1201	0
991	0	168	0
992	12	730	0
993	0	182	0
994	0	540	0
995	0	126	0
996	0	675	0
997	0	214	0
998	0	41	0
999	0	170	0
Total	79	35350	0

Appendix A-2

Region 2

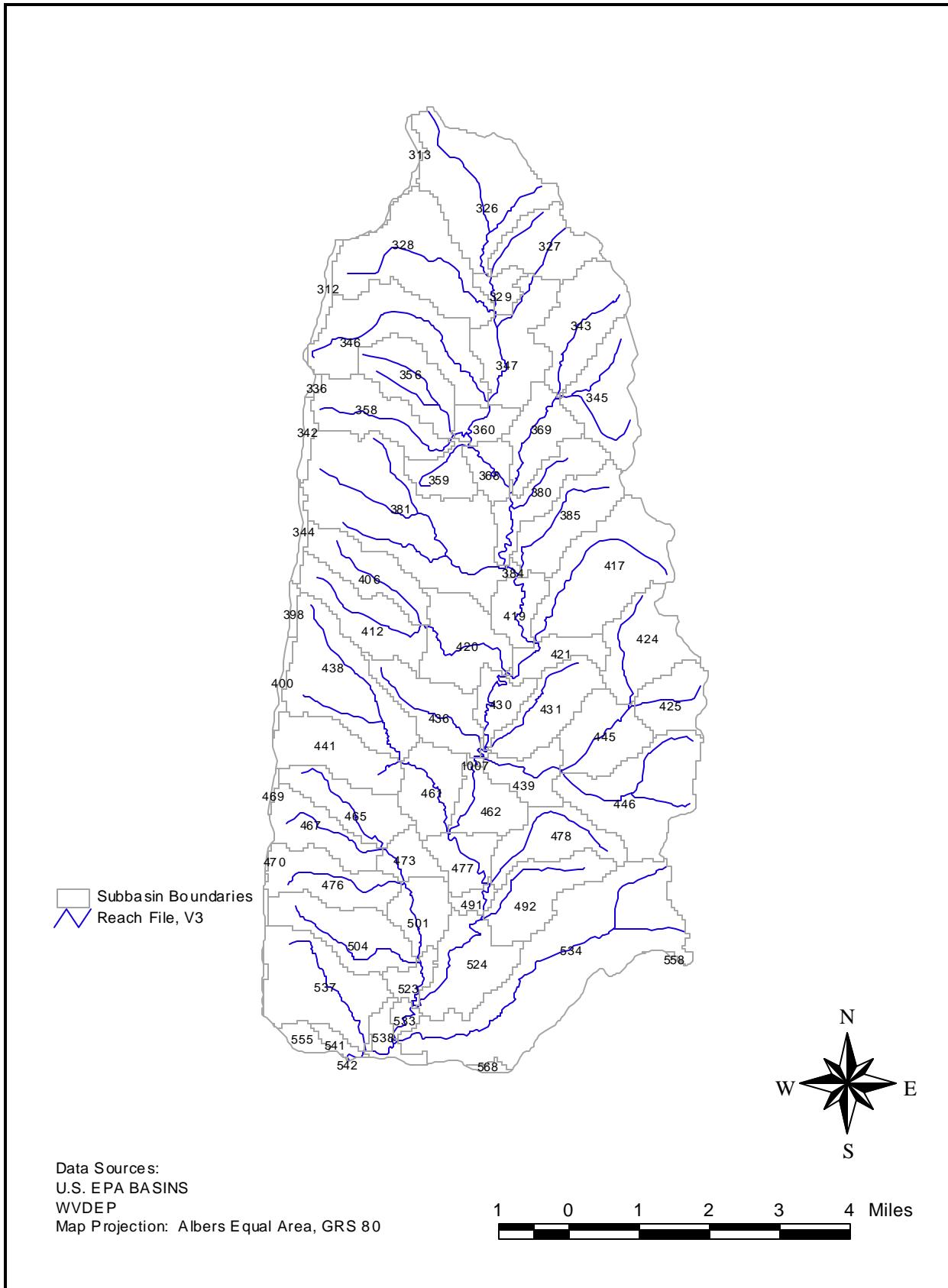


Figure 3. Region 2 - Leading Creek, Randolph County

Table 1. Impaired waterbodies in Region 2 (not applicable in this region)

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)
(not applicable in this region)

Table 3a. Water quality data for aluminum
(not applicable in this region)

Table 3b. Water quality data for iron
(not applicable in this region)

Table 3c. Water quality data for manganese
(not applicable in this region)

Table 4a. Aluminum baseline conditions for permitted mining point sources
(not applicable in this region)

Table 4b. Iron baseline conditions for permitted mining point sources
(not applicable in this region)

Table 4c. Manganese baseline conditions for permitted mining point sources
(not applicable in this region)

Table 5a. Aluminum baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
1007	0	27	0
326	0	1062	0
327	0	449	0
328	0	937	0
329	0	361	0
343	0	584	0
345	0	571	0
346	0	934	0
347	0	1352	0
356	0	553	0
358	0	539	0
359	0	232	0
360	0	464	0
368	0	445	0
369	0	451	0
380	0	444	0
381	0	1764	0
384	0	59	0
385	0	522	0
406	0	414	0
412	0	484	0
417	0	1115	0
419	0	724	0
420	0	806	0
421	0	242	0
424	0	505	0
425	0	336	0
430	0	559	0
431	0	497	0
436	0	607	0
437	0	22	0
438	0	836	0
439	0	385	0
441	0	439	0
445	0	417	0
446	0	754	0
461	0	905	0
462	0	758	0
465	0	404	0
467	0	353	0
473	0	190	0
476	0	432	0
477	0	705	0
478	0	459	0
491	0	227	0
492	0	491	0
501	0	310	0
504	0	517	0

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
523	0	310	0
524	0	1354	0
533	0	175	0
534	0	1990	0
537	0	759	0
538	0	498	0
541	0	100	0
Total	0	31824	0

Table 5b. Iron baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
1007	0	42	0
326	0	2334	0
327	0	976	0
328	0	2110	0
329	0	431	0
343	0	1290	0
345	0	1308	0
346	0	2015	0
347	0	1869	0
356	0	1121	0
358	0	1191	0
359	0	495	0
360	0	606	0
368	0	624	0
369	0	915	0
380	0	982	0
381	0	3907	0
384	0	72	0
385	0	1137	0
406	0	945	0
412	0	1116	0
417	0	2429	0
419	0	905	0
420	0	1658	0
421	0	536	0
424	0	1182	0
425	0	772	0
430	0	764	0
431	0	1106	0
436	0	1281	0
437	0	32	0
438	0	1934	0
439	0	742	0
441	0	1031	0
445	0	964	0
446	0	1767	0
461	0	1242	0
462	0	993	0

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
465	0	911	0
467	0	811	0
473	0	406	0
476	0	991	0
477	0	892	0
478	0	1007	0
491	0	274	0
492	0	1094	0
501	0	668	0
504	0	1140	0
523	0	417	0
524	0	1830	0
533	0	237	0
534	0	4481	0
537	0	1717	0
538	0	714	0
541	0	212	0
Total	0	62627	0

Table 5c. Manganese baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
1007	0	14	0
326	0	425	0
327	0	182	0
328	0	378	0
329	0	186	0
343	0	236	0
345	0	237	0
346	0	373	0
347	0	714	0
356	0	217	0
358	0	216	0
359	0	94	0
360	0	249	0
368	0	238	0
369	0	176	0
380	0	174	0
381	0	691	0
384	0	33	0
385	0	210	0
406	0	168	0
412	0	197	0
417	0	438	0
419	0	386	0
420	0	298	0
421	0	96	0
424	0	213	0

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
425	0	152	0
430	0	298	0
431	0	196	0
436	0	232	0
437	0	12	0
438	0	342	0
439	0	146	0
441	0	183	0
445	0	171	0
446	0	314	0
461	0	470	0
462	0	394	0
465	0	165	0
467	0	146	0
473	0	77	0
476	0	178	0
477	0	369	0
478	0	187	0
491	0	118	0
492	0	199	0
501	0	124	0
504	0	213	0
523	0	159	0
524	0	717	0
533	0	95	0
534	0	808	0
537	0	310	0
538	0	266	0
541	0	39	0
Total	0	13920	0

Appendix A-3

Region 3

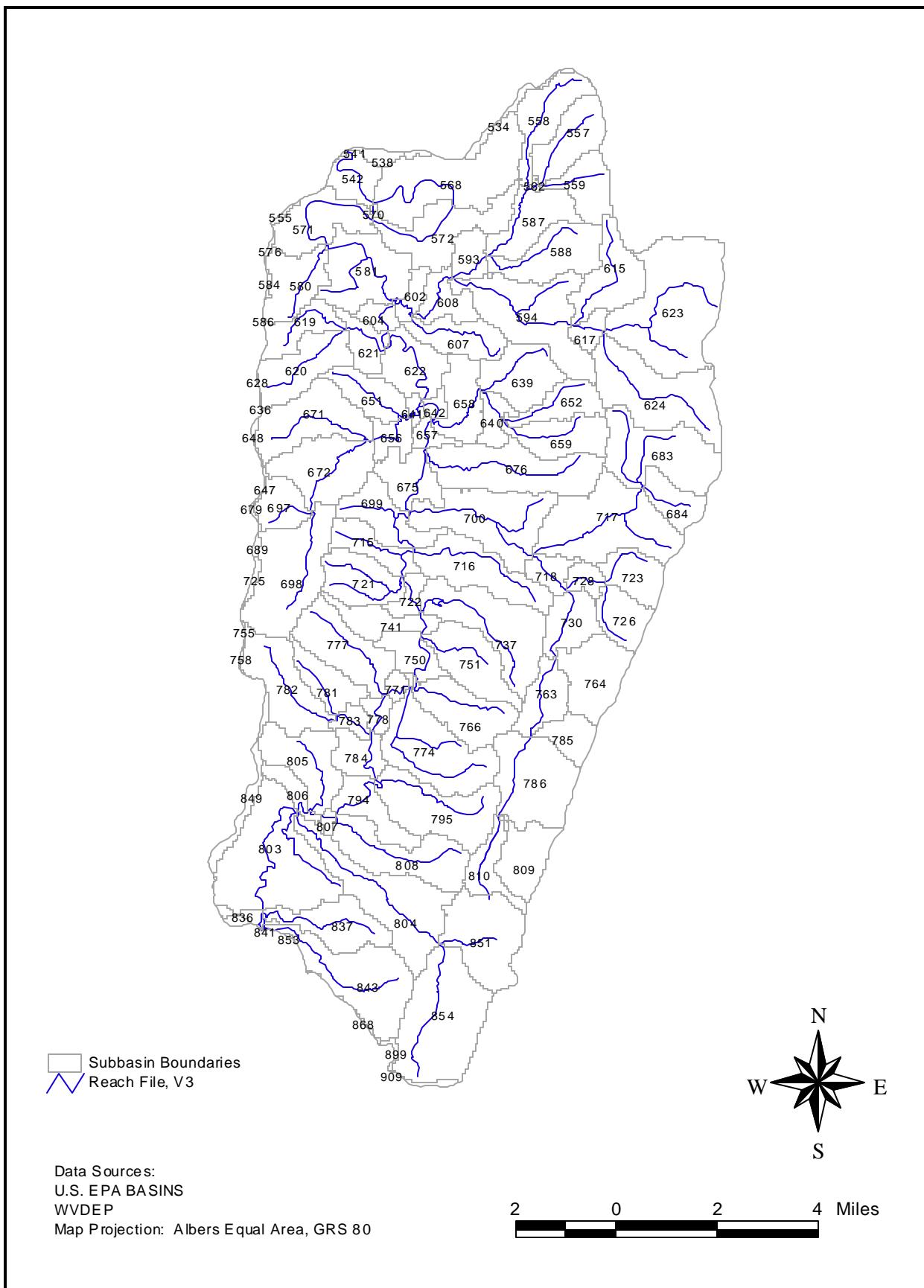
**Figure 4.** Region 3 - Tygart Valley River, Randolph County

Table 1. Impaired waterbodies in Region 3
(not applicable in this region)

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)
(not applicable in this region)

Table 3a. Water quality data for aluminum
(not applicable in this region)

Table 3b. Water quality data for iron
(not applicable in this region)

Table 3c. Water quality data for manganese
(not applicable in this region)

Table 4a. Aluminum baseline conditions for permitted mining point sources
(not applicable in this region)

Table 4b. Iron baseline conditions for permitted mining point sources
(not applicable in this region)

Table 4c. Manganese baseline conditions for permitted mining point sources
(not applicable in this region)

Table 5a. Aluminum baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
542	0	847	0
557	0	479	0
558	0	533	0
559	0	371	0
562	0	23	0
568	0	2699	0
570	0	29	0
571	116	1266	0
572	0	1591	0
580	0	474	0
581	0	2246	0
587	0	580	0
588	0	671	0
593	0	485	0
594	0	1368	0
602	0	374	0
604	0	411	0
607	0	1040	0
608	0	892	0
615	0	579	0
617	0	151	0
619	5	336	0
620	7	561	0
621	0	366	0
622	0	1476	0
623	0	1619	0
624	0	1068	0
639	0	725	0
640	0	295	0
641	0	222	0
642	0	217	0
651	0	955	0
652	0	379	0
656	0	530	0
657	0	327	0
658	0	1124	0
659	0	514	0
671	30	725	0
672	0	721	0
675	0	1256	0
676	0	1110	0
683	0	901	0
684	0	314	0
697	6	297	0
698	0	982	0
699	0	1299	0
700	0	2897	0
715	0	849	0
716	0	1965	0
717	0	1171	0

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
718	0	419	0
721	0	508	0
722	0	512	0
723	0	371	0
726	0	342	0
728	0	280	0
730	0	426	0
737	0	1051	0
741	0	918	0
750	0	1033	0
751	0	661	0
763	0	365	0
764	0	623	0
765	0	38	0
766	0	603	0
771	0	250	0
774	0	1213	0
777	0	780	0
778	0	413	0
781	0	350	0
782	0	762	0
783	0	308	0
784	0	905	0
785	0	294	0
786	0	920	0
794	0	1123	0
795	0	910	0
804	0	1327	0
805	0	1500	0
806	0	447	0
807	0	109	0
808	0	812	0
809	0	423	0
810	0	287	0
851	0	782	0
854	0	1194	0
Total	164	65562	0

Table 5b. Iron baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
542	0	1075	0
557	0	1122	0
558	0	1210	0
559	0	880	0
562	0	40	0
568	0	4087	0
570	0	37	0
571	233	1949	0
572	0	2441	0
580	0	1125	0
581	0	3012	0
587	0	1307	0
588	0	1528	0
593	0	773	0
594	0	2970	0
602	0	537	0
604	0	518	0
607	0	1491	0
608	0	1208	0
615	0	1334	0
617	0	342	0
619	9	798	0
620	14	1331	0
621	0	777	0
622	0	1786	0
623	0	3693	0
624	0	2521	0
639	0	1447	0
640	0	564	0
641	0	281	0
642	0	286	0
651	0	1292	0
652	0	852	0
656	0	737	0
657	0	435	0
658	0	1579	0
659	0	1167	0
671	63	1714	0
672	0	1693	0
675	0	1617	0
676	0	2485	0
683	0	2117	0
684	0	748	0
697	10	705	0
698	0	2337	0
699	0	1809	0
700	0	3814	0
715	0	1232	0
716	0	2656	0
717	0	2744	0

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
718	0	659	0
721	0	1176	0
722	0	619	0
723	0	883	0
726	0	814	0
728	0	464	0
730	0	956	0
737	0	2318	0
741	0	1259	0
750	0	1226	0
751	0	1473	0
763	0	863	0
764	0	1482	0
765	0	50	0
766	0	1392	0
771	0	313	0
774	0	2696	0
777	0	1738	0
778	0	508	0
781	0	814	0
782	0	1713	0
783	0	434	0
784	0	1127	0
785	0	700	0
786	0	2158	0
794	0	1446	0
795	0	2066	0
804	0	2911	0
805	0	2113	0
806	0	615	0
807	0	160	0
808	0	1855	0
809	0	1007	0
810	0	681	0
851	0	1855	0
854	0	2837	0
Total	328	119580	0

Table 5c. Manganese baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
542	0	446	0
557	0	199	0
558	0	219	0
559	0	153	0
562	0	12	0
568	0	1408	0
570	0	15	0
571	133	682	0
572	0	835	0
580	0	199	0
581	0	1208	0
587	0	231	0
588	0	272	0
593	0	257	0
594	0	532	0
602	0	200	0
604	0	219	0
607	0	544	0
608	0	484	0
615	0	239	0
617	0	62	0
619	3	141	0
620	5	237	0
621	0	139	0
622	0	775	0
623	0	714	0
624	0	445	0
639	0	288	0
640	0	113	0
641	0	121	0
642	0	118	0
651	0	491	0
652	0	154	0
656	0	288	0
657	0	174	0
658	0	588	0
659	0	209	0
671	27	305	0
672	0	303	0
675	0	681	0
676	0	448	0
683	0	376	0
684	0	131	0
697	3	125	0
698	0	413	0
699	0	699	0
700	0	1546	0
715	0	456	0
716	0	1036	0
717	0	489	0

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
718	0	221	0
721	0	210	0
722	0	278	0
723	0	155	0
726	0	143	0
728	0	147	0
730	0	173	0
737	0	425	0
741	0	490	0
750	0	557	0
751	0	267	0
763	0	152	0
764	0	260	0
765	0	21	0
766	0	246	0
771	0	138	0
774	0	471	0
777	0	313	0
778	0	221	0
781	0	145	0
782	0	311	0
783	0	161	0
784	0	485	0
785	0	123	0
786	0	384	0
794	0	594	0
795	0	385	0
804	0	523	0
805	0	788	0
806	0	236	0
807	0	59	0
808	0	334	0
809	0	177	0
810	0	120	0
851	0	328	0
854	0	500	0
Total	170	30960	0

Appendix A-4

Region 4

Metals and pH TMDLs for the Tygart Valley River Watershed

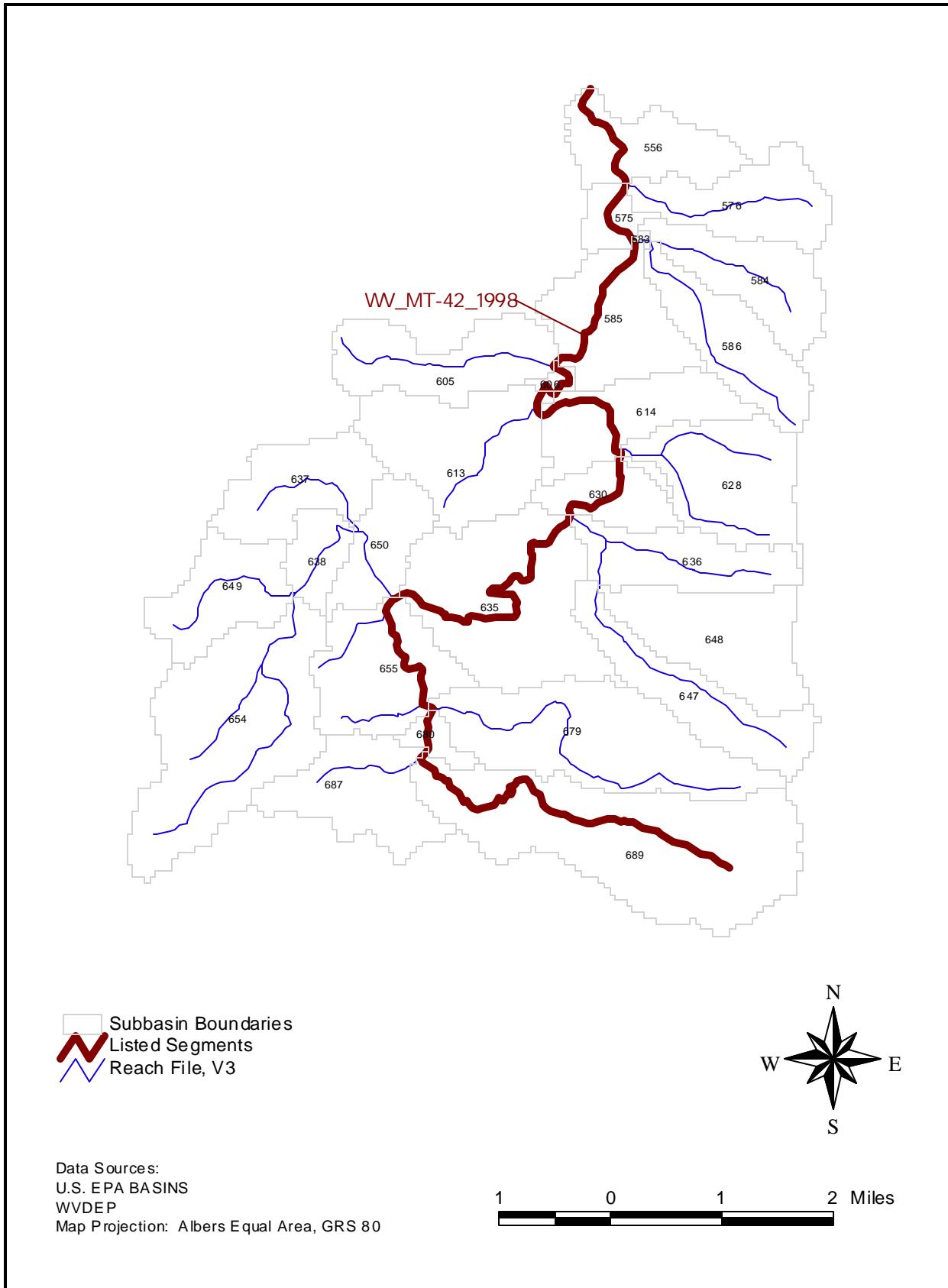


Figure 5. Region 4- Roaring Creek, Northwest of Randolph County

Table 1. Impaired waterbodies in Region 4

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Roaring CK	MT-42	pH, Metals	556, 583, 575, 576, 584, 606, 585, 605, 586, 614, 630, 613, 637, 628, 636, 638, 650, 649, 635, 648, 655, 680, 647, 679, 687, 654, 689	none	B-2

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)

SWS
614

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
635	MT-42-{07.7}	1800	1800	1800	1	16-Sep-97	16-Sep-97

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
556	385605079570039	1430	590	2300	3	27-Mar-80	22-Jul-81
614	385341079575401	13333	12000	15000	3	01-Jun-84	08-Apr-85
635	MT-42-{07.7}	480	480	480	1	16-Sep-97	16-Sep-97

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
556	385605079570039	747	530	1100	3	27-Mar-80	22-Jul-81
614	385341079575401	343	330	360	3	01-Jun-84	08-Apr-85
635	MT-42-{07.7}	2500	2500	2500	1	16-Sep-97	16-Sep-97

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/l)
638	s201787	3148	1472	2.0
650	s202086	6323	3092	2.1

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/l)
638	s201787	2068	1241	1.9
650	s202086	4153	2930	2.3

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/l)
638	s201787	1885	1257	2.0
650	s202086	3787	2524	2.0

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
556	75	75	597	597	0	0	
575	103	62	188	188	0	0	x
576	0	0	669	669	0	0	
583	0	0	10	10	0	0	
584	0	0	633	633	0	0	
585	1267	642	645	645	0	0	x
586	0	0	656	656	0	0	
605	655	271	741	741	0	0	x
606	228	109	50	50	0	0	x
613	3376	1533	1035	1035	0	0	x
614	26292	7962	696	696	0	0	x
628	77	52	872	872	256	256	x
630	96	60	387	387	0	0	x
635	5638	2297	1698	1698	0	0	x
636	324	169	599	599	1025	1025	x
637	3932	1684	544	544	0	0	x
638	216	107	264	264	0	0	x
647	520	266	765	765	0	0	x
648	689	354	868	868	0	0	x
649	552	279	665	665	0	0	x
650	1409	254	168	168	0	0	x
654	1413	535	1688	1688	0	0	x
655	2208	1068	748	748	0	0	x
679	1315	568	1354	1354	0	0	x
680	465	199	106	106	0	0	x
687	2115	824	669	669	0	0	x
689	2477	1031	1992	1992	0	0	x
Total	55441	20828	19303	19303	1281	140	

Table 5b. Iron baseline conditions and allocations (LAS) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
556	88	88	571	571	0	0	
575	103	68	180	180	0	0	x
576	0	0	638	638	0	0	
583	0	0	9	9	0	0	
584	0	0	603	603	0	0	
585	1214	671	623	623	0	0	x
586	0	0	625	625	0	0	
605	600	266	714	714	0	0	x
606	215	113	52	52	0	0	x
613	3152	1552	1024	1024	0	0	x
614	21263	6466	674	674	0	0	x
628	79	58	830	830	256	256	x
630	97	65	378	378	0	0	x
635	5128	2228	1745	1745	0	0	x
636	313	178	571	571	1026	1026	x
637	3602	1651	533	533	0	0	x
638	240	131	252	252	0	0	x
647	499	279	741	741	0	0	x
648	661	371	830	830	0	0	x
649	528	291	661	661	0	0	x
650	1288	232	164	164	0	0	x
654	1271	508	1629	1629	0	0	x
655	2091	1101	716	716	0	0	x
679	1214	565	1294	1294	0	0	x
680	428	198	102	102	0	0	x
687	1912	791	641	641	0	0	x
689	2269	1014	1907	1907	0	0	x
Total	48255	19322	18707	18707	1282	249	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
556	46	46	218	218	0	0	
575	75	53	69	69	0	0	x
576	0	0	243	243	0	0	
583	0	0	3	3	0	0	
584	0	0	229	229	0	0	
585	964	631	237	237	0	0	x
586	0	0	238	238	0	0	
605	517	313	271	271	0	0	x
606	175	112	19	19	0	0	x
613	2621	1641	389	389	0	0	x
614	15836	4847	256	256	0	0	x
628	54	41	316	316	147	147	x
630	70	50	144	144	0	0	x
635	4472	2695	663	663	0	0	x
636	245	163	217	217	587	587	x
637	3104	1909	201	201	0	0	x
638	145	145	96	96	0	0	x
647	394	259	282	282	0	0	x
648	522	344	316	316	0	0	x
649	420	275	251	251	0	0	x
650	1113	1113	62	62	0	0	x
654	1130	663	619	619	0	0	x
655	1694	1088	272	272	0	0	x
679	1030	633	492	492	0	0	x
680	364	223	39	39	0	0	x
687	1684	997	244	244	0	0	x
689	1952	1183	726	726	0	0	x
Total	38629	18980	7111	7111	734	734	

Appendix A-5

Region 5

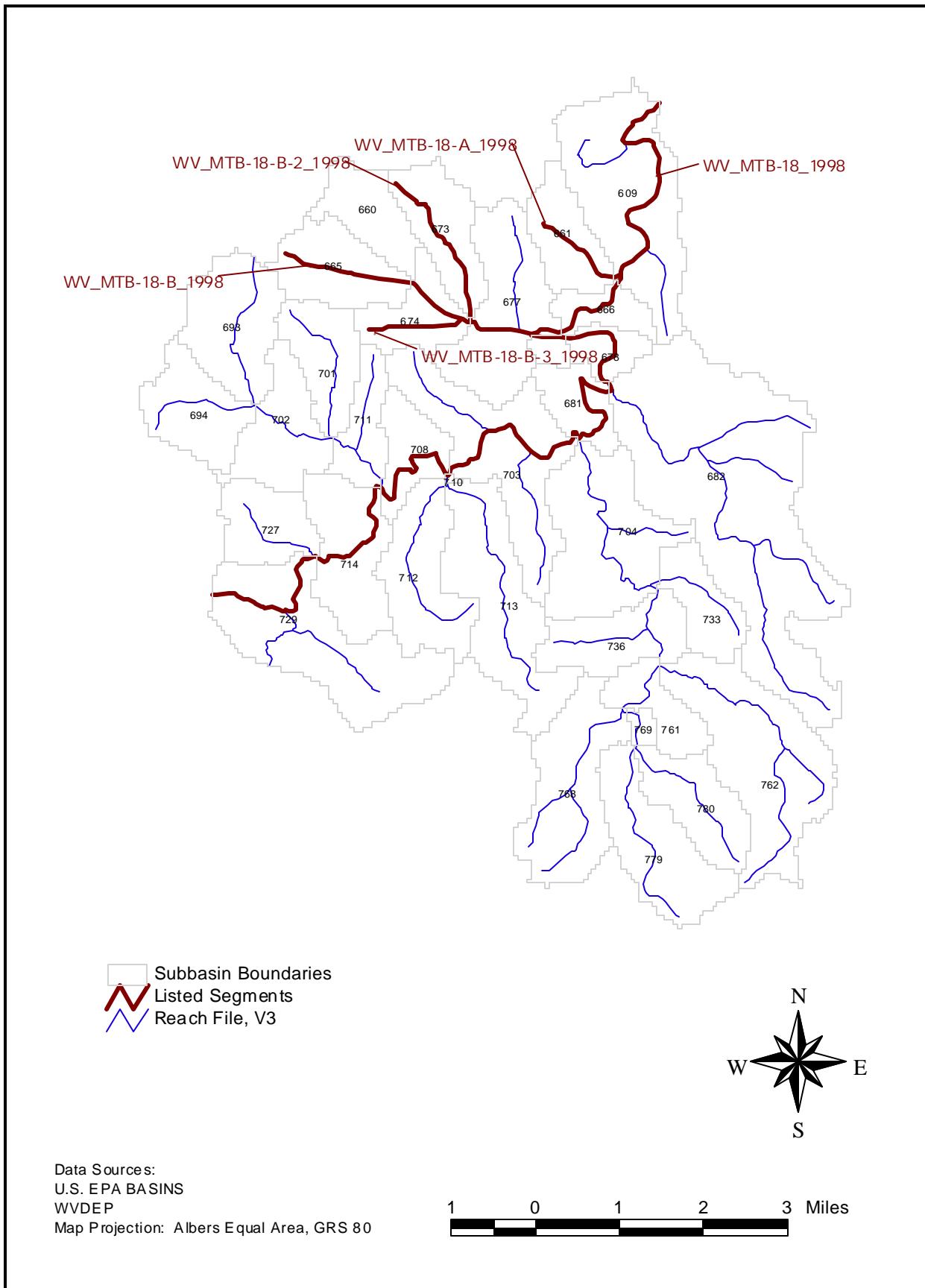
**Figure 6.** Region 5-French Creek, Upshur County

Table 1. Impaired waterbodies in region 5

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Mudlick RN	MTB-18-B-3	Iron	674	None	B-1
Blacklick RN	MTB-18-B-2	Iron	673	None	B-1
Bull RN	MTB-18-B	Iron	665,660,673,674,677, 418	None	B-1
French CK	MTB-18	Metals	660 661 665 673 609 674 666 678 693 677 701 681 694 710 711 702 708 727 703 704 714 712 733 736 729 713 769 761 780 768 762 779 555 535 552 536 566 565 333 338 341 357 361 349 348 415 426 464 432 469 463 470 493 433 494 499 503 502 519 500 521 511 498 579 582	None	B-1
Crooked RN	MTB18-A	Metals	661	None	B-1

Table 2. Locations of abandoned mines (seep, deep mine, and /or leaching)

SWS
673, 661

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
609	MTB-18-A	170	170	170	1	26-Jun-98	26-Jun-98
674	MTB-18-B-3	170	170	170	1	03-Sep-97	03-Sep-97
677	MTB-18-B	170	170	170	1	03-Sep-97	03-Sep-97
677	MTB-18-B-2	130	130	130	1	03-Sep-97	03-Sep-97
708	MTB-18-{11.2}	150	150	150	1	03-Sep-97	03-Sep-97
736	MTB-18-D-{03.9}	55	55	55	1	10-Sep-97	10-Sep-97

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
609	MTB-18-A	240	240	240	1	26-Jun-98	26-Jun-98
661	385453080154001	7700	7700	7700	1	02-Sep-80	02-Sep-80
661	385505080155201	3400	3400	3400	1	03-Sep-80	03-Sep-80
674	MTB-18-B-3	1200	1200	1200	1	03-Sep-97	03-Sep-97
677	MTB-18-B	2400	2400	2400	1	03-Sep-97	03-Sep-97
677	MTB-18-B-2	3600	3600	3600	1	03-Sep-97	03-Sep-97
704	385232080155239	1220	240	2200	2	22-Mar-80	22-Aug-80
708	385307080175339	1157	870	1300	3	22-Mar-80	22-Jul-81
708	MTB-18-{11.2}	1200	1200	1200	1	03-Sep-97	03-Sep-97
736	MTB-18-D-{03.9}	240	240	240	1	10-Sep-97	10-Sep-97

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
609	MTB-18-A	80	80	80	1	26-Jun-98	26-Jun-98
661	385453080154001	390	390	390	1	02-Sep-80	02-Sep-80
661	385505080155201	280	280	280	1	03-Sep-80	03-Sep-80
674	MTB-18-B-3	130	130	130	1	03-Sep-97	03-Sep-97
677	MTB-18-B	270	270	270	1	03-Sep-97	03-Sep-97
677	MTB-18-B-2	1000	1000	1000	1	03-Sep-97	03-Sep-97
704	385232080155239	40	30	50	2	22-Mar-80	22-Aug-80
708	385307080175339	197	70	380	3	22-Mar-80	22-Jul-81
708	MTB-18-{11.2}	510	510	510	1	03-Sep-97	03-Sep-97
736	MTB-18-D-{03.9}	20	20	20	1	10-Sep-97	10-Sep-97

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
673	o000484	275	275	4.3
673	u006083	100	100	4.3

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
673	o000484	1488	1060	2.3
673	u006083	595	424	2.3

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
673	o000484	233	233	2.0
673	u006083	93	93	2.0

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
609	53	53	2726	2726	0	0	
660	1	1	1058	1058	0	0	
661	402	261	1047	1047	0	0	x
665	1	1	1209	1209	0	0	
666	36	36	620	620	0	0	
673	89	89	1127	1127	0	0	
674	0	0	932	932	0	0	
677	259	259	1893	1893	306	306	x
678	0	0	367	367	0	0	
681	0	0	582	582	0	0	
693	0	0	1364	1364	0	0	
694	0	0	1037	1037	0	0	
701	0	0	900	900	0	0	
702	0	0	1151	1151	0	0	
703	53	53	2107	2107	0	0	
704	1	1	1851	1851	0	0	
708	1	1	752	752	0	0	
710	0	0	12	12	0	0	
711	0	0	721	721	0	0	
712	0	0	1290	1290	0	0	
713	1	1	1898	1898	0	0	
714	0	0	1283	1283	0	0	
727	0	0	900	900	0	0	
729	0	0	2219	2219	0	0	
733	0	0	643	643	0	0	
736	0	0	910	910	0	0	
761	0	0	531	531	510	510	
762	0	0	2116	2116	0	0	
768	1	1	1666	1666	0	0	
769	0	0	103	103	0	0	
779	0	0	1235	1235	0	0	
780	0	0	852	852	0	0	
Total	898	758	37103	37103	319	319	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SW S	AML		Nonpoint		Revoked Mine		Requires Reductio n
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
609	49	49	2263	2263	0	0	
660	2	2	792	792	0	0	
661	1649	561	818	818	0	0	x
665	2	2	989	989	0	0	
666	33	33	539	539	0	0	
673	4852	171	936	936	0	0	x
674	0	0	743	743	0	0	
677	239	239	1575	1575	306	306	
678	0	0	362	362	0	0	
681	0	0	566	566	0	0	
693	0	0	1322	1322	0	0	
694	0	0	990	990	0	0	
701	0	0	874	874	0	0	
702	0	0	1093	1093	0	0	
703	49	49	2027	2027	0	0	
704	2	2	1822	1822	0	0	
708	2	2	709	709	0	0	
710	0	0	12	12	0	0	
711	0	0	672	672	0	0	
712	0	0	1239	1239	0	0	
713	2	2	1834	1834	0	0	
714	0	0	1244	1244	0	0	
727	0	0	853	853	0	0	
729	0	0	2166	2166	0	0	
733	0	0	635	635	0	0	
736	0	0	901	901	0	0	
761	0	0	528	528	510	510	
762	0	0	2104	2104	0	0	
768	2	2	1610	1610	0	0	
769	0	0	102	102	0	0	
779	0	0	1229	1229	0	0	
780	0	0	849	849	0	0	
Total	6881	1111	34396	34396	330	330	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
609	78	78	1140	1140	0	0	
660	1	1	486	486	0	0	
661	314	314	467	467	0	0	
665	1	1	522	522	0	0	
666	53	53	255	255	0	0	
673	112	112	605	605	0	0	
674	0	0	411	411	0	0	
677	385	385	828	828	201	201	
678	0	0	170	170	0	0	
681	0	0	279	279	0	0	
693	0	0	759	759	0	0	
694	0	0	565	565	0	0	
701	0	0	477	477	0	0	
702	0	0	689	689	0	0	
703	78	78	1092	1092	0	0	
704	1	1	796	796	0	0	
708	1	1	464	464	0	0	
710	0	0	7	7	0	0	
711	0	0	455	455	0	0	
712	0	0	638	638	0	0	
713	1	1	932	932	0	0	
714	0	0	644	644	0	0	
727	0	0	570	570	0	0	
729	0	0	1055	1055	0	0	
733	0	0	253	253	0	0	
736	0	0	358	358	0	0	
761	0	0	200	200	335	335	
762	0	0	800	800	0	0	
768	1	1	847	847	0	0	
769	0	0	38	38	0	0	
779	0	0	458	458	0	0	
780	0	0	312	312	0	0	
Total	1026	1026	17573	17573	205	205	

Appendix A-6

Region 6

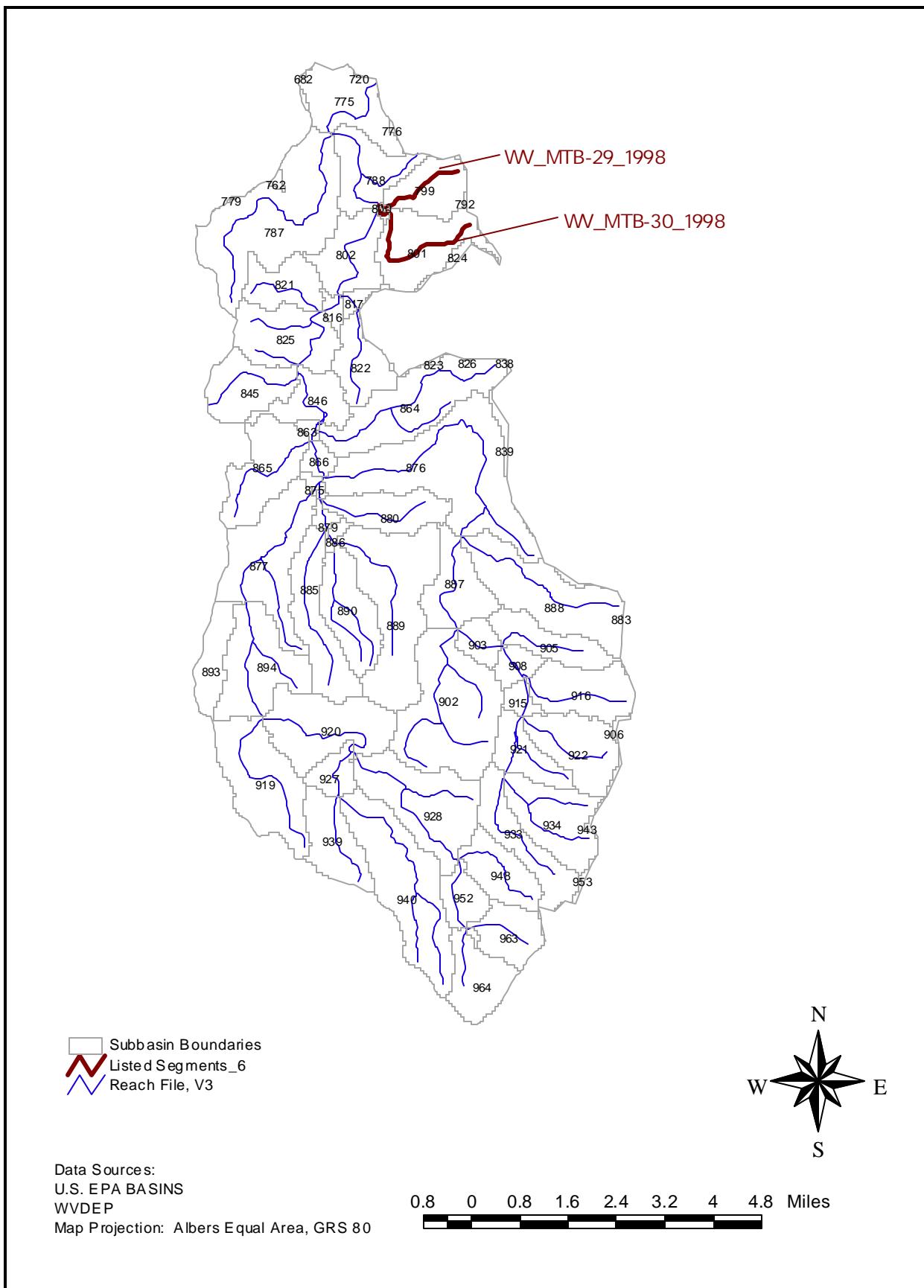


Figure 7. Region 6 - Buckhannon River, Right FK, Randolph County

Table 1. Impaired waterbodies in Region 6

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Region	Aquatic Life
Swamp RN	MTB-29	pH, Metals	799	None	B-2
Herods RN	MTB-30	pH	801	None	B-2

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)

SWS
799 and 801

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
775	MTB-27	67	67	67	1	16-Sep-97	16-Sep-97
787	MTB-28-{01.33}	121	121	121	1	28-Apr-98	28-Apr-98
801	MTB-29	7500	7500	7500	1	09-Sep-97	09-Sep-97
817	MTB-32-{00.40}	50	50	50	1	16-Sep-97	16-Sep-97
866	550809	243	20	1500	61	20-Mar-86	14-Jun-88
888	MTB-31-F-1	54	54	54	1	08-Sep-97	08-Sep-97
902	MTB-31-F-2-{1}	56	56	56	1	08-Sep-97	08-Sep-97
922	MTB-31-F-5	57	57	57	1	08-Sep-97	08-Sep-97
928	MTB-31-{59.57}	60	60	60	1	28-Apr-98	28-Apr-98
940	MTB-31-J-{02.1}	73	73	73	1	28-Apr-98	28-Apr-98
964	MTB-31-{61.58}	107	107	107	1	28-Apr-98	28-Apr-98

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
775	MTB-27	98	98	98	1	16-Sep-97	16-Sep-97
787	MTB-28-{01.33}	284	284	284	1	28-Apr-98	28-Apr-98
801	MTB-29	300	300	300	1	09-Sep-97	09-Sep-97
817	MTB-32-{00.40}	140	140	140	1	16-Sep-97	16-Sep-97
866	550809	245	20	2900	61	20-Mar-86	14-Jun-88
875	384440080140939	383	260	590	3	22-Mar-80	21-Jul-81
888	MTB-31-F-1	93	93	93	1	08-Sep-97	08-Sep-97
902	MTB-31-F-2-{1}	170	170	170	1	08-Sep-97	08-Sep-97
922	MTB-31-F-5	69	69	69	1	08-Sep-97	08-Sep-97
928	MTB-31-{59.57}	212	212	212	1	28-Apr-98	28-Apr-98
940	MTB-31-J-{02.1}	136	136	136	1	28-Apr-98	28-Apr-98
964	MTB-31-{61.58}	172	172	172	1	28-Apr-98	28-Apr-98

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
775	MTB-27	66	66	66	1	16-Sep-97	16-Sep-97
787	MTB-28-{01.33}	54	53.8	53.8	1	28-Apr-98	28-Apr-98
801	MTB-29	5300	5300	5300	1	09-Sep-97	09-Sep-97
817	MTB-32-{00.40}	20	20	20	1	16-Sep-97	16-Sep-97
866	550809	48	0	380	61	20-Mar-86	14-Jun-88
875	384440080140939	30	10	50	3	22-Mar-80	21-Jul-81
888	MTB-31-F-1	7	7	7	1	08-Sep-97	08-Sep-97
902	MTB-31-F-2-{1}	20	20	20	1	08-Sep-97	08-Sep-97
922	MTB-31-F-5	5	5	5	1	08-Sep-97	08-Sep-97
928	MTB-31-{59.57}	27	26.8	26.8	1	28-Apr-98	28-Apr-98
940	MTB-31-J-{02.1}	37	37.1	37.1	1	28-Apr-98	28-Apr-98
964	MTB-31-{61.58}	15	15.1	15.1	1	28-Apr-98	28-Apr-98

**Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources
(not applicable in this region)****Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources
(not applicable in this region)****Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources
(not applicable in this region)**

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
775	108	108	1171	1171	674	674	
787	241	241	3333	3333	0	0	
788	297	297	938	938	1245	1245	
799	1122	237	753	753	405	350	x
800	0	0	4	4	0	0	
801	787	787	1193	1193	0	0	
802	259	259	933	933	1044	1044	
816	6	6	155	155	0	0	
817	2	2	130	130	0	0	
821	87	87	926	926	0	0	
822	0	0	843	843	741	741	
825	0	0	1398	1398	0	0	
845	0	0	1158	1158	0	0	
846	0	0	785	785	0	0	
863	0	0	99	99	0	0	
864	0	0	2046	2046	0	0	
865	0	0	1353	1353	0	0	
866	0	0	276	276	0	0	
875	0	0	76	76	0	0	
876	0	0	3380	3380	0	0	
877	0	0	1959	1959	0	0	
878	0	8	27	27	0	0	
879	0	0	127	127	0	0	
880	0	0	890	890	0	0	
885	0	0	1285	1285	0	0	
886	0	0	100	100	0	0	
887	0	0	1047	1047	0	0	
888	0	0	2102	2102	0	0	
889	0	0	2487	2487	0	0	
890	0	0	1110	1110	0	0	
893	0	0	734	734	0	0	
894	0	0	1542	1542	0	0	
902	0	0	2866	2866	0	0	
903	0	0	368	368	0	0	
905	0	0	843	843	0	0	
908	0	0	367	367	0	0	
915	7	7	241	241	0	0	
916	22	22	1144	1144	0	0	
919	0	0	1796	1796	0	0	
920	0	0	1669	1669	0	0	
921	0	0	733	733	0	0	
922	144	144	1094	1094	0	0	
927	0	0	381	381	0	0	
928	33	33	1882	1882	0	0	
933	15	15	1088	1088	0	0	
934	87	87	1255	1255	0	0	
939	0	0	998	998	0	0	
940	26	26	2439	2439	0	0	

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
948	9	9	903	903	0	0	
952	2	2	601	601	0	0	
963	0	0	783	783	0	0	
964	53	53	899	899	0	0	
Total	3309	2403	56711	56711	4110	4055	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
775	149	149	1144	1144	674	674	
787	332	332	3201	3201	0	0	
788	410	410	935	935	1245	1245	
799	1596	220	750	750	405	345	x
800	0	0	4	4	0	0	
801	870	870	1190	1190	0	0	
802	358	358	913	913	1045	1045	
816	8	8	149	149	0	0	
817	3	3	128	128	0	0	
821	120	120	864	864	0	0	
822	0	0	803	803	741	741	
825	0	0	1344	1344	0	0	
845	0	0	1114	1114	0	0	
846	0	0	766	766	0	0	
863	0	0	87	87	0	0	
864	0	0	2002	2002	0	0	
865	0	0	1331	1331	0	0	
866	0	0	262	262	0	0	
875	0	0	71	71	0	0	
876	0	0	3339	3339	0	0	
877	0	0	1940	1940	0	0	
878	0	0	26	26	0	0	
879	0	0	123	123	0	0	
880	0	0	885	885	0	0	
885	0	0	1276	1276	0	0	
886	0	0	99	99	0	0	
887	0	0	1034	1034	0	0	
888	0	0	2067	2067	0	0	
889	0	0	2460	2460	0	0	
890	0	0	1107	1107	0	0	
893	0	0	730	730	0	0	
894	0	0	1540	1540	0	0	
902	0	0	2782	2782	0	0	
903	0	0	364	364	0	0	

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
905	0	0	833	833	0	0	
908	0	0	353	353	0	0	
915	7	7	230	230	0	0	
916	24	24	1129	1129	0	0	
919	0	0	1795	1795	0	0	
920	0	0	1662	1662	0	0	
921	0	0	720	720	0	0	
922	195	195	1092	1092	0	0	
927	0	0	380	380	0	0	
928	30	30	1895	1895	0	0	
933	20	20	1093	1093	0	0	
934	117	117	1255	1255	0	0	
939	0	0	1014	1014	0	0	
940	36	36	2489	2489	0	0	
948	12	12	916	916	0	0	
952	3	3	621	621	0	0	
963	0	0	775	775	0	0	
964	73	73	911	911	0	0	
Total	4364	2988	55996	55996	4110	4050	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
775	83	83	441	441	453	453	
787	184	184	1304	1304	0	0	
788	228	228	343	343	838	838	
799	1370	296	275	275	271	236	x
800	0	0	2	2	0	0	
801	810	810	428	428	0	0	
802	198	198	355	355	707	707	x
816	5	5	60	60	0	0	
817	2	2	48	48	0	0	
821	67	67	388	388	0	0	
822	0	0	331	331	502	502	
825	0	0	536	536	0	0	
845	0	0	456	456	0	0	
846	0	0	296	296	0	0	
863	0	0	44	44	0	0	

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
864	0	0	764	764	0	0	
865	0	0	501	501	0	0	
866	0	0	119	119	0	0	
875	0	0	31	31	0	0	
876	0	0	1240	1240	0	0	
877	0	0	713	713	0	0	
878	0	0	11	11	0	0	
879	0	0	50	50	0	0	
880	0	0	321	321	0	0	
885	0	0	466	466	0	0	
886	0	0	36	36	0	0	
887	0	0	389	389	0	0	
888	0	0	786	786	0	0	
889	0	0	914	914	0	0	
890	0	0	399	399	0	0	
893	0	0	264	264	0	0	
894	0	0	551	551	0	0	
902	0	0	1114	1114	0	0	
903	0	0	136	136	0	0	
905	0	0	310	310	0	0	
908	0	0	145	145	0	0	
915	11	11	95	95	0	0	
916	28	28	425	425	0	0	
919	0	0	645	645	0	0	
920	0	0	603	603	0	0	
921	0	0	278	278	0	0	
922	115	115	393	393	0	0	
927	0	0	137	137	0	0	
928	49	49	714	714	0	0	
933	11	11	409	409	0	0	
934	72	72	452	452	0	0	
939	0	0	393	393	0	0	
940	20	20	988	988	0	0	
948	7	7	363	363	0	0	
952	2	2	269	269	0	0	
963	0	0	295	295	0	0	
964	40	40	351	351	0	0	
Total	3301	2228	21374	21374	2771	2736	

Appendix A-7

Region 7

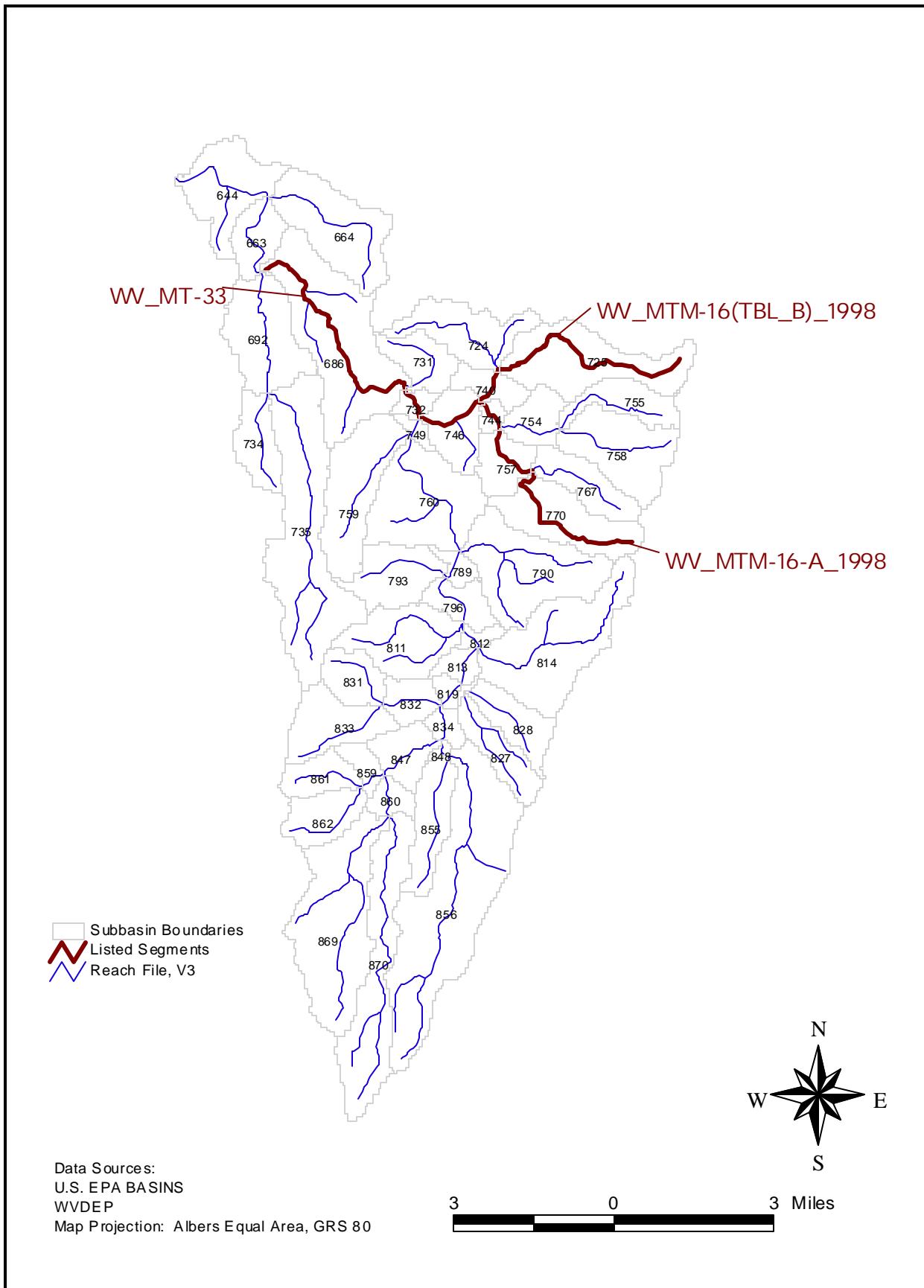
**Figure 8.** Region 7- Middle Fork River, Randolph County

Table 1. Impaired waterbodies in Region 7

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Cassity CK	MTM-16	pH, Metals	724,725,740,746,755,744,754,7 57,758,767,770	None	B-2
Panther RN	MTM-16-A	pH, Metals	755,744,754,757,758,767,770	None	B-2
Middle Fork River	MT-33	pH, Aluminum	749,760,759,789,793,790,796,8 12,811,813,831,819,814,832,83 4,848,833,828,847,861,859,827, 860,862,855,869,856,870,724,7 25,740,746,755,744,754,757,75 8,767,770	None	B-2

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)

SWS
725, 740, 754 and 757

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
663	551114	1733	200	7200	35	18-Jun-91	26-Oct-94
692	MTM-13-{00.80}	53	53	53	1	08-Sep-97	08-Sep-97
725	551117	274	50	1000	40	27-Jun-91	25-Oct-94
732	551115	2486	530	11000	39	18-Jun-91	25-Oct-94
732	551116	7338	1100	30200	40	27-Jun-91	25-Oct-94
760	551118	338	50	1400	38	18-Jun-91	25-Oct-94
848	550844	364	50	5430	48	06-May-80	25-Oct-94

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
663	551114	334	70	3380	35	18-Jun-91	26-Oct-94
692	MTM-13-{00.80}	192	192	192	1	08-Sep-97	08-Sep-97
725	551117	253	15	1400	40	27-Jun-91	25-Oct-94
732	551115	740	20	5200	39	18-Jun-91	25-Oct-94
732	551116	1550	100	3820	40	27-Jun-91	25-Oct-94
746	384933080020639	2447	740	4400	3	23-Mar-80	22-Jul-81
760	384905080024139	823	110	1600	3	23-Mar-80	22-Jul-81
760	551118	280	15	3000	38	18-Jun-91	25-Oct-94
848	550844	199	15	1200	58	06-Feb-80	25-Oct-94

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
663	551114	705	40	2000	35	18-Jun-91	26-Oct-94
692	MTM-13-{00.80}	11	11	11	1	08-Sep-97	08-Sep-97
725	551117	175	5	2550	40	27-Jun-91	25-Oct-94
732	551115	833	20	3660	39	18-Jun-91	25-Oct-94
732	551116	2697	160	9600	38	27-Jun-91	25-Oct-94
746	384933080020639	2057	710	4500	3	23-Mar-80	22-Jul-81
760	384905080024139	40	20	70	3	23-Mar-80	22-Jul-81
760	551118	167	5	1200	38	18-Jun-91	25-Oct-94
848	550844	131	5	2010	58	06-Feb-80	25-Oct-94

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
734	u104391	261	261	4.3
735	u202588	707	707	4.3
861	u100791	4	4	4.3

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
734	u104391	195	195	3.2
735	u202588	528	528	3.2
861	u100791	18	10	3.2

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
734	u104391	104	104	2.0
735	u202588	282	282	2.0
861	u100791	4	2	2.0

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
644	0	0	1482	1482	0	0	
663	0	0	688	688	0	0	
664	58	58	1842	1842	0	0	
686	176	176	3271	3271	0	0	
692	1	1	1630	1630	0	0	
724	219	219	1246	1246	0	0	

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
725	65315	1959	1951	1951	0	0	x
731	3	3	784	784	0	0	
732	0	0	214	214	0	0	
734	36	36	811	811	0	0	
735	112	112	3811	3811	73	73	
740	38173	1145	408	408	0	0	x
744	7	7	157	157	0	0	
746	561	561	869	869	0	0	
749	1356	1356	158	158	0	0	
754	68992	2070	517	517	0	0	x
755	1	1	779	779	0	0	
757	69868	2096	548	548	0	0	x
758	27	27	1624	1624	0	0	
759	181	181	1834	1834	0	0	
760	622	622	2172	2172	0	0	
767	1	1	918	918	0	0	
770	1154	1154	1546	1546	0	0	
789	0	0	251	251	0	0	
790	0	0	2206	2206	0	0	
793	2	2	1133	1133	0	0	
796	0	0	549	549	0	0	
811	1	1	1457	1457	0	0	
812	0	0	181	181	0	0	
813	75	75	300	300	0	0	
814	112	112	2566	2566	0	0	
819	0	0	159	159	0	0	
820	0	0	37	37	0	0	
827	0	0	796	796	0	0	
828	0	0	793	793	0	0	
831	1	1	682	682	0	0	
832	0	0	475	475	0	0	
833	1	1	1160	1160	0	0	
834	0	0	265	265	0	0	
847	0	0	692	692	0	0	
848	0	0	72	72	0	0	
855	0	0	998	998	0	0	
856	0	0	4450	4450	0	0	
859	0	0	305	305	0	0	
860	1	0	331	331	0	0	
861	11	0	599	599	0	0	
862	1	0	840	840	0	0	
869	149	0	3028	3028	0	0	
870	0	15	2350	2350	0	0	
Total	247213	11988	55935	55935	73	73	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
644	0	0	1411	1411	0	0	
663	0	0	658	658	0	0	
664	85	85	1761	1761	0	0	
686	228	228	3151	3151	0	0	
692	2	2	1556	1556	0	0	
724	365	365	1197	1197	0	0	
725	21829	1310	1861	1861	0	0	x
731	5	5	773	773	0	0	
732	0	0	206	206	0	0	
734	69	69	779	779	0	0	
735	132	132	3638	3638	73	73	
740	12758	765	390	390	0	0	x
744	14	13	151	151	0	0	
746	589	589	841	841	0	0	
749	1425	1425	152	152	0	0	
754	23059	1383	497	497	0	0	x
755	2	2	742	742	0	0	
757	23351	1401	520	520	0	0	x
758	52	52	1556	1556	0	0	
759	195	195	1734	1734	0	0	
760	654	654	2054	2054	0	0	
767	1	1	871	871	0	0	
770	1213	1213	1436	1436	0	0	
789	0	0	233	233	0	0	
790	0	0	2090	2090	0	0	
793	3	3	1049	1049	0	0	
796	0	0	521	521	0	0	
811	2	2	1373	1373	0	0	
812	0	0	172	172	0	0	
813	88	88	283	283	0	0	
814	132	132	2430	2430	0	0	
819	0	0	149	149	0	0	
820	0	0	35	35	0	0	
827	0	0	758	758	0	0	
828	0	0	755	755	0	0	
831	2	2	633	633	0	0	
832	0	0	448	448	0	0	
833	1	1	1091	1091	0	0	
834	0	0	249	249	0	0	
847	0	0	644	644	0	0	
848	0	0	65	65	0	0	
855	0	0	939	939	0	0	
856	0	0	4220	4220	0	0	
859	0	0	282	282	0	0	
860	1	1	310	310	0	0	
861	21	21	558	558	0	0	
862	2	2	814	814	0	0	
869	177	177	2846	2846	0	0	

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
870	0	0	2233	2233	0	0	
Total	86457	10320	53115	53115	73	73	

Table 5c. Manganese baseline conditions and allocations (LAS) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
644	0	0	544	544	0	0	
663	0	0	250	250	0	0	
664	46	46	670	670	0	0	
686	121	121	1198	1198	0	0	
692	1	1	592	592	0	0	
724	207	207	459	459	0	0	
725	23858	2611	714	714	0	0	x
731	3	3	294	294	0	0	
732	0	0	79	79	0	0	
734	40	40	310	310	0	0	
735	68	68	1422	1422	42	42	
740	13944	1526	148	148	0	0	x
744	8	8	57	57	0	0	
746	410	410	321	321	0	0	
749	992	992	59	59	0	0	
754	25201	2758	190	190	0	0	x
755	1	1	282	282	0	0	
757	25523	2793	199	199	0	0	x
758	30	30	593	593	0	0	
759	128	128	673	673	0	0	
760	455	455	798	798	0	0	
767	1	1	333	333	0	0	
770	845	845	567	567	0	0	
789	0	0	93	93	0	0	
790	0	0	801	801	0	0	
793	2	2	415	415	0	0	
796	0	0	199	199	0	0	
811	1	1	530	530	0	0	
812	0	0	67	67	0	0	
813	46	46	111	111	0	0	
814	68	68	941	941	0	0	
819	0	0	58	58	0	0	
820	0	0	14	14	0	0	
827	0	0	291	291	0	0	
828	0	0	288	288	0	0	
831	1	1	250	250	0	0	

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
832	0	0	173	173	0	0	
833	1	1	422	422	0	0	
834	0	0	98	98	0	0	
847	0	0	255	255	0	0	
848	0	0	30	30	0	0	
855	0	0	364	364	0	0	
856	0	0	1618	1618	0	0	
859	0	0	112	112	0	0	
860	1	1	121	121	0	0	
861	12	12	219	219	0	0	
862	1	1	312	312	0	0	
869	91	91	1111	1111	0	0	
870	0	0	853	853	0	0	
Total	165066	13270	20503	20503	42	42	

Appendix A-8

Region 8

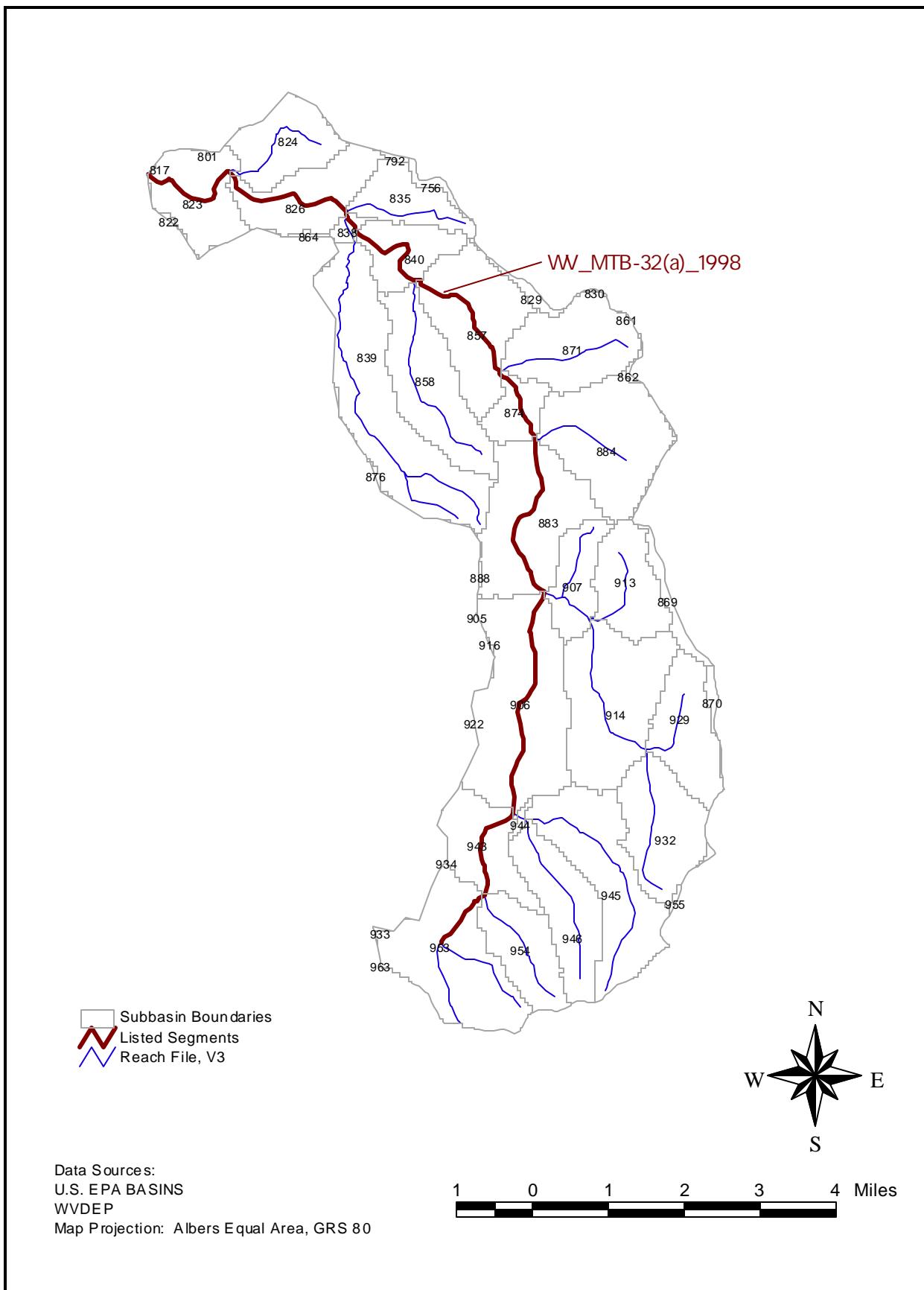


Figure 9. Region 8-Buckhannon River, Left Fork, Randolph County

TMDLs for Region 8 were developed in 1998, *Metals TMDL for Buckhannon River, West Virginia*. The allocation results from this report are summarized in Tables 5a-5c. Refer to the report for a more detailed description of the TMDL development methodology and TMDL allocation. Note that the watershed column refers to the watersheds in the Buckhannon TMDL. 5020001018 represents the following SWS used in development of the Tygart watershed TMDLs: 902, 883, 896, 898, 897, 911, 936, 946, 951, 938, 931, 949, and 960. 5020001020 represents 969, 970, 1001, 1005, and 1018. 502001021 represents 1004, 1007, 1019, 1036, 1035, 1037, and 1040.

Table 5a. Aluminum existing and allocation loadings (lbs/yr)

Aluminum		
Watershed	Existing(lbs/yr)	Allocation(lbs/yr)
5020001018	17901	14101
5020001020	12941	6037
5020001021	12337	9233
All Subwatersheds	483065	445501

Table 5b. Iron existing and allocation loadings (lbs/yr)

Iron		
Watershed	Existing(lbs/yr)	Allocation(lbs/yr)
5020001018	23312	18044
5020001020	17974	8020
5020001021	15291	11365
All Subwatersheds	623687	575492

Table 5c. Manganese existing and alloaction loadings (lbs/yr)

Management		
Watershed	Existing(lbs/yr)	Allocation(lbs/yr)
5020001018	4827	4287
5020001020	2632	1541
5020001021	2506	2173
All Subwatersheds	152839	148616

Appendix A-9

Region 9

Metals and pH TMDLs for the Tygart Valley River Watershed

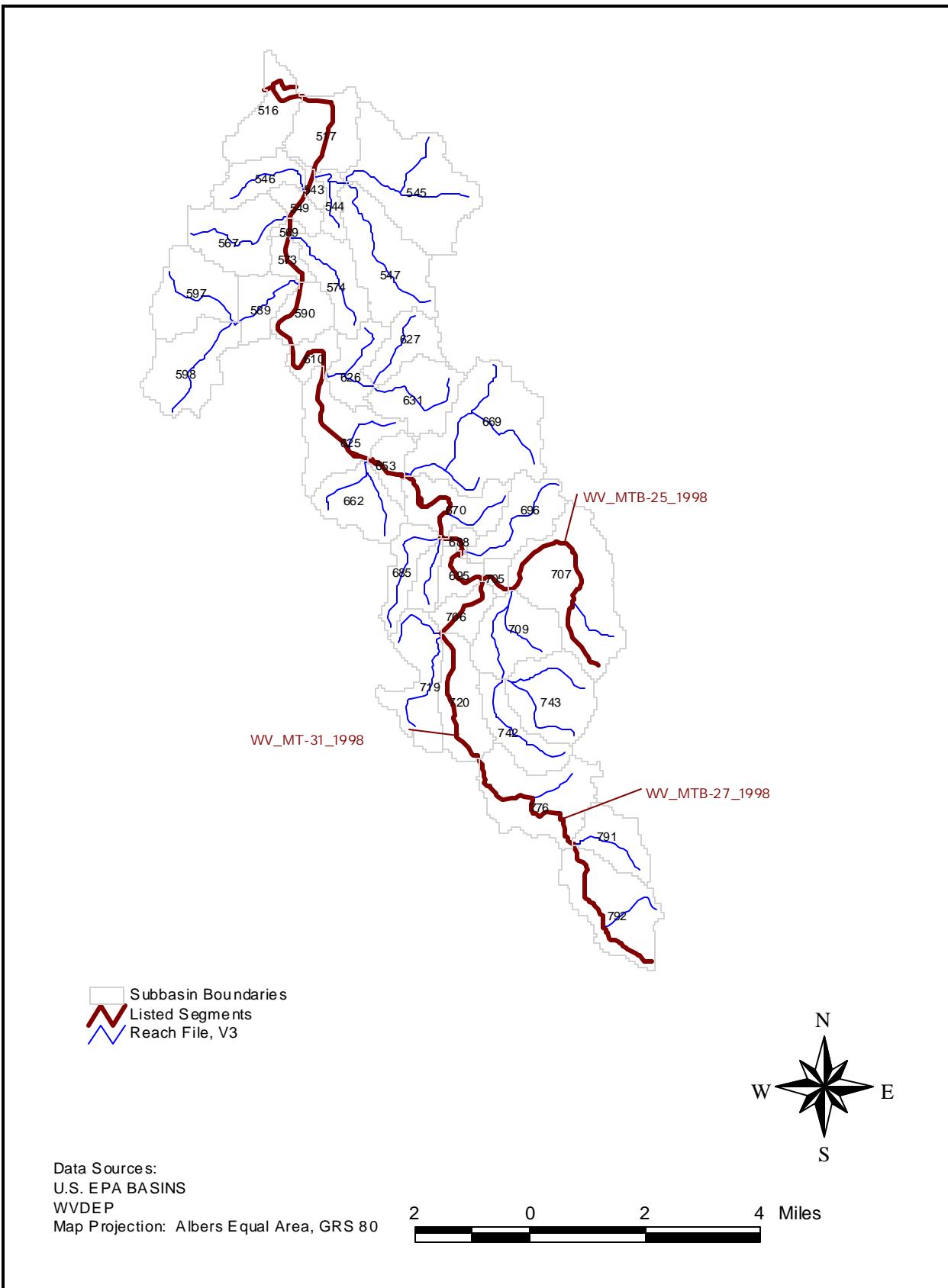


Figure 10. Region 9- Buckhannon River, Upshur County

Table 1. Impaired waterbodies in Region 9

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Ten mile CK	MTB-25	Aluminum, Iron	705,707,709,742,743	None	B-1
Buckhannon River	MT-31	Iron	516,517,543,546,549,569,544,5 45,567,573,547,574,597,589,59 0,610,627,626,598,631,625,669, 653,662,688,696,695,670,685,7 06,719,720,705,707,709,742,74 3,776,791,792	8,6,5	B-1
Panther FK	MTB-27	pH	776,791,792	None	B-2

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)

SWS
776

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
544	MTB-13-{00.80}	160	160	160	1	29-Apr-98	29-Apr-98
598	MTB-17-{01.67}	239	239	239	1	29-Apr-98	29-Apr-98
625	550807	311	60	1500	70	06-May-80	14-Jun-88
625	MTB-20	57	57	57	1	04-Sep-97	04-Sep-97
626	MTB-19-{0.9}	260	260	260	1	04-Sep-97	04-Sep-97
705	MTB-25	240	240	240	1	17-Sep-97	17-Sep-97
705	MTB-25-{00.57}	439	439	439	1	29-Apr-98	29-Apr-98
707	385111080093301	500	500	500	1	30-Oct-84	30-Oct-84
707	MTB-25-A	114	114	114	1	17-Sep-97	17-Sep-97
709	MTB-25-A-{01.7}	152	152	152	1	29-Apr-98	29-Apr-98

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
544	MTB-13-{00.80}	292	292	292	1	29-Apr-98	29-Apr-98
598	MTB-17-{01.67}	404	404	404	1	29-Apr-98	29-Apr-98
625	550807	300	0	1450	82	06-Feb-80	14-Jun-88
625	MTB-20	370	370	370	1	04-Sep-97	04-Sep-97
626	MTB-19-{0.9}	490	490	490	1	04-Sep-97	04-Sep-97
705	MTB-25	780	780	780	1	17-Sep-97	17-Sep-97
705	MTB-25-{00.57}	524	524	524	1	29-Apr-98	29-Apr-98

707	385111080093301	910	910	910	1	30-Oct-84	30-Oct-84
707	MTB-25-A	186	186	186	1	17-Sep-97	17-Sep-97
709	MTB-25-A-{01.7}	55	55	55	1	29-Apr-98	29-Apr-98

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
544	MTB-13-{00.80}	36	35.8	35.8	1	29-Apr-98	29-Apr-98
598	MTB-17-{01.67}	26	26.3	26.3	1	29-Apr-98	29-Apr-98
625	550807	208	0	1320	81	06-Feb-80	14-Jun-88
625	MTB-20	150	150	150	1	04-Sep-97	04-Sep-97
626	MTB-19-{0.9}	200	200	200	1	04-Sep-97	04-Sep-97
705	MTB-25	1300	1300	1300	1	17-Sep-97	17-Sep-97
705	MTB-25-{00.57}	257	257	257	1	29-Apr-98	29-Apr-98
707	385111080093301	210	210	210	1	30-Oct-84	30-Oct-84
707	MTB-25-A	111	111	111	1	17-Sep-97	17-Sep-97
709	MTB-25-A-{01.7}	48	48.2	48.2	1	29-Apr-98	29-Apr-98

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
589	u002883	1449	455	1.4
590	p201497	1	1	4.3
598	d003582	386	121	1.3
598	p201597	1	1	4.3
625	u201698	459	459	4.3
631	s016376	2271	1089	2.1
653	d018400	2246	2246	4.3
662	o003983	2515	1075	1.8

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
589	u002883	809	809	3.2
590	p201497	2	1	3.2
598	d003582	216	216	3.2
598	p201597	1	1	3.2
625	u201698	341	341	3.2
631	s016376	1689	1689	3.2
653	d018400	1671	1671	3.2
662	o003983	1871	1871	3.2

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
589	u002883	506	506	2.0
590	p201497	0	0	2.0
598	d003582	135	135	2.0
598	p201597	0	0	2.0
625	u201698	213	213	2.0
631	s016376	1071	1071	2.0
653	d018400	1045	1045	2.0
662	o003983	1150	1150	2.0

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
517	0	0	1665	1665	0	0	
543	0	0	273	273	0	0	
544	0	0	584	584	0	0	
545	30	30	3607	3607	0	0	
546	0	0	959	959	0	0	
547	0	0	2501	2501	0	0	
549	0	0	525	525	0	0	
567	0	0	2069	2069	0	0	
569	49	49	141	141	0	0	
573	67	67	383	383	0	0	
574	7	7	1380	1380	0	0	
589	0	0	1018	1018	0	0	
590	0	0	766	766	0	0	
597	0	0	2031	2031	0	0	
598	7	7	2238	2238	0	0	
610	0	0	600	600	0	0	
625	26	26	1831	1831	0	0	
626	30	30	924	924	0	0	
627	1	1	926	926	0	0	
631	0	0	1405	1405	0	0	
653	33	33	374	374	0	0	
662	355	155	1098	1098	0	0	x
669	0	0	3413	3413	0	0	
670	2	2	1573	1573	0	0	
682	1	1	5638	5638	0	0	
685	0	0	787	787	0	0	
688	0	0	151	151	0	0	
695	0	0	426	426	0	0	

Metals and pH TMDLs for the Tygart Valley River Watershed

696	37	37	1334	1334	0	0	
705	0	0	219	219	0	0	
706	0	0	537	537	0	0	
707	2918	2918	1163	1163	0	0	
709	1334	1334	1041	1041	0	0	
719	0	0	1480	1480	0	0	
720	93	93	1211	1211	0	0	
742	73	73	968	968	0	0	
743	86	86	1595	1595	0	0	
776	395	395	1864	1864	8558	8558	
791	0	0	865	865	0	0	
792	23	23	1841	1841	0	0	
Total	5567	5567	53405	53405	8558	8558	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
517	0	0	1637	1637	0	0	
543	0	0	240	240	0	0	
544	0	0	522	522	0	0	
545	28	28	3343	3343	0	0	
546	0	0	919	919	0	0	
547	0	0	2322	2322	0	0	
549	0	0	500	500	0	0	
567	0	0	1887	1887	0	0	
569	45	45	131	131	0	0	
573	61	61	348	348	0	0	
574	7	7	1280	1280	0	0	
589	0	0	905	905	0	0	
590	0	0	737	737	0	0	
597	0	0	1872	1872	0	0	
598	6	6	1889	1889	0	0	
610	0	0	539	539	0	0	
625	26	26	1731	1731	0	0	
626	28	28	870	870	0	0	
627	2	2	883	883	0	0	
631	0	0	1343	1343	0	0	
653	46	46	365	365	0	0	
662	490	490	1100	1100	0	0	
669	0	0	3291	3291	0	0	
670	3	3	1550	1550	0	0	
682	2	2	5447	5447	0	0	
685	0	0	752	752	0	0	
688	0	0	151	151	0	0	
695	0	0	432	432	0	0	
696	51	51	1328	1328	0	0	
705	0	0	218	218	0	0	
706	0	0	539	539	0	0	
707	4025	4025	1189	1189	0	0	
709	1840	1840	1046	1046	0	0	
719	0	0	1445	1445	0	0	
720	129	129	1207	1207	0	0	
742	100	100	964	964	0	0	
743	119	119	1588	1588	0	0	
776	424	424	1853	1853	8558	3080	x
791	0	0	865	865	0	0	
792	32	32	1839	1839	0	0	
Total	7462	7462	51063	51063	8558	3080	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
517	0	0	820	820	0	0	
543	0	0	136	136	0	0	
544	0	0	277	277	0	0	
545	44	44	1551	1551	0	0	
546	0	0	417	417	0	0	
547	0	0	1065	1065	0	0	
549	0	0	249	249	0	0	
567	0	0	964	964	0	0	
569	73	73	65	65	0	0	
573	99	99	161	161	0	0	
574	11	11	604	604	0	0	
589	0	0	481	481	0	0	
590	0	0	301	301	0	0	
597	0	0	909	909	0	0	
598	10	10	1056	1056	0	0	
610	0	0	264	264	0	0	
625	36	36	747	747	0	0	
626	44	44	375	375	0	0	
627	1	1	371	371	0	0	
631	0	0	557	557	0	0	
653	25	25	143	143	0	0	
662	272	272	498	498	0	0	
669	0	0	1390	1390	0	0	
670	2	2	591	591	0	0	
682	1	1	2193	2193	0	0	
685	0	0	307	307	0	0	
688	0	0	54	54	0	0	
695	0	0	166	166	0	0	
696	28	28	569	569	0	0	
705	0	0	89	89	0	0	
706	0	0	197	197	0	0	
707	2233	2233	505	505	0	0	
709	1021	1021	401	401	0	0	
719	0	0	563	563	0	0	
720	71	71	447	447	0	0	
742	55	55	353	353	0	0	
743	66	66	582	582	0	0	
776	398	398	674	674	5748	5748	
791	0	0	309	309	0	0	
792	18	18	659	659	0	0	
Total	4508	4508	22059	22059	5748	5748	

Appendix A-10

Region 10

Metals and pH TMDLs for the Tygart Valley River Watershed

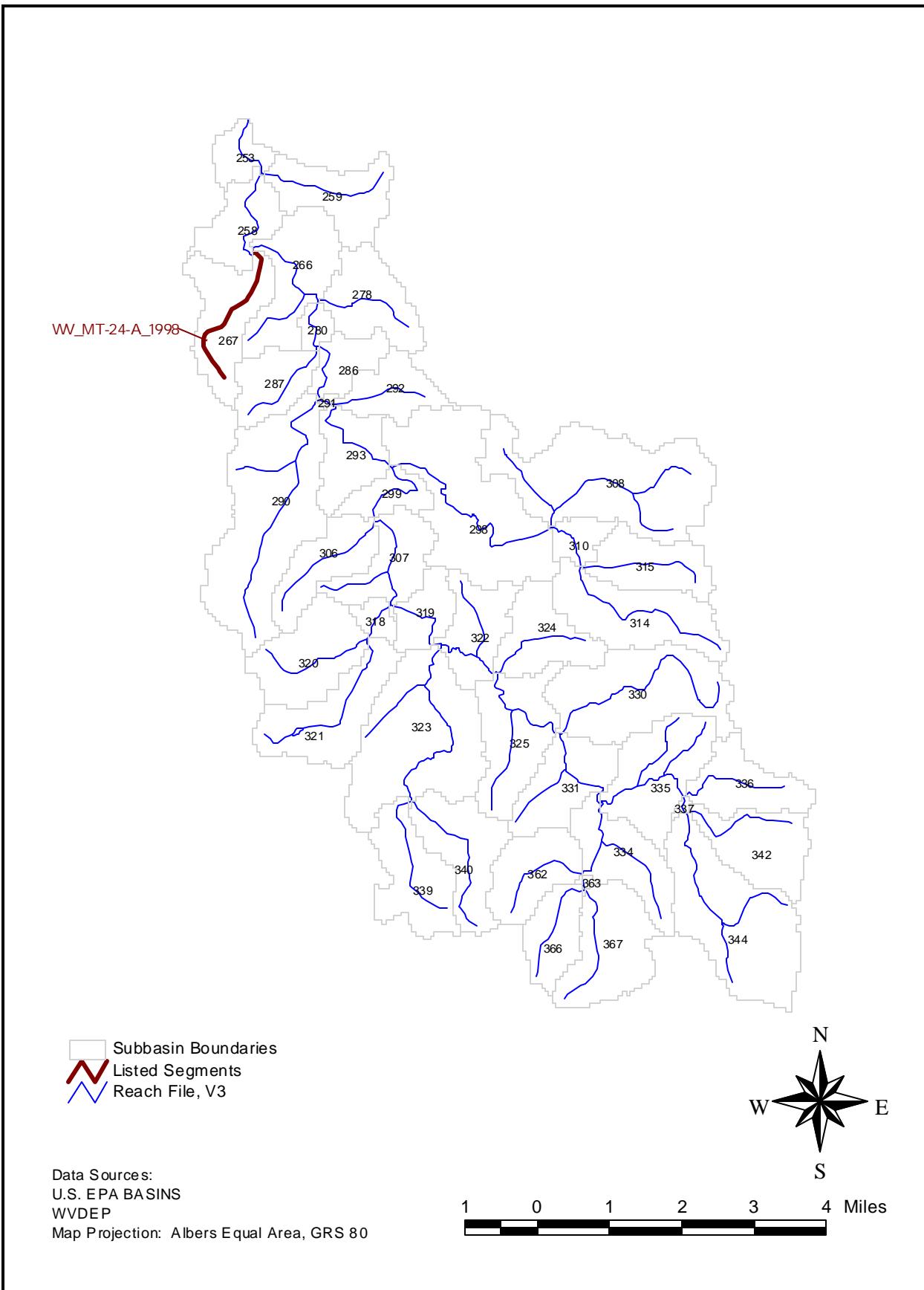


Figure 11. Region 10- Laurel Creek, Barbour County

Table 1. Impaired waterbodies in Region 10

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Frost RN	MT-24-A	pH, Metals	267	None	B-1

Table 2. Locations of abandoned mines (seep, deep mine, leaching)

SWS
none

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
258	550981	167	60	250	10	25-Oct-89	19-Sep-90
267	MT-24-A	71	71	71	1	10-Sep-97	10-Sep-97
323	MT-24-C-2	104	104	104	1	10-Sep-97	10-Sep-97
335	MT-24-C-3.5	394	394	394	1	10-Sep-97	10-Sep-97

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
258	550981	350	84	700	11	25-Oct-89	19-Sep-90
266	391100079583139	605	380	830	2	27-Mar-80	23-Aug-80
267	MT-24-A	850	850	850	1	10-Sep-97	10-Sep-97
323	MT-24-C-2	876	876	876	1	10-Sep-97	10-Sep-97
335	MT-24-C-3.5	727	727	727	1	10-Sep-97	10-Sep-97

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
258	550981	72.1	40	108	10	25-Oct-89	19-Sep-90
266	391100079583139	70	60	80	2	27-Mar-80	23-Aug-80
267	MT-24-A	1100	1100	1100	1	10-Sep-97	10-Sep-97
323	MT-24-C-2	197	197	197	1	10-Sep-97	10-Sep-97
335	MT-24-C-3.5	80	80	80	1	10-Sep-97	10-Sep-97

**Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources
(not applicable in this region)****Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources
(not applicable in this region)**

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources (not applicable in this region)**Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources**

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
253	0	0	406	406	325	325	
258	112	112	843	843	0	0	
259	0	0	1277	1277	0	0	
266	47	47	1677	1677	0	0	
267	1034	1034	1377	1377	0	0	
278	0	0	1471	1471	0	0	
280	0	0	218	218	0	0	
286	0	0	655	655	0	0	
287	0	0	848	848	0	0	
290	16	16	4047	4047	0	0	
291	0	0	34	34	0	0	
292	0	0	1177	1177	0	0	
293	63	63	1105	1105	0	0	
298	74	74	3928	3928	0	0	
299	7	7	601	601	0	0	
306	22	22	1295	1295	0	0	
307	7	7	1206	1206	0	0	
308	0	0	4092	4092	0	0	
310	0	0	440	440	0	0	
314	30	30	1982	1982	0	0	
315	0	0	1321	1321	0	0	
318	0	0	307	307	0	0	
319	0	0	697	697	0	0	
320	0	0	1889	1889	0	0	
321	0	0	1956	1956	0	0	
322	15	15	1174	1174	0	0	
323	7	7	3882	3882	0	0	
324	37	37	1286	1286	0	0	
325	0	0	1917	1917	0	0	
330	0	0	2424	2424	0	0	
331	22	22	1228	1228	1405	1405	
334	0	0	1395	1395	0	0	
335	7	7	1704	1704	0	0	
336	0	0	927	927	0	0	
337	0	0	34	34	0	0	
339	0	0	1452	1452	0	0	

340	45	45	1347	1347	0	0	
342	0	0	1062	1062	0	0	
344	0	0	2359	2359	0	0	
362	22	22	1206	1206	0	0	
363	0	0	43	43	0	0	
366	0	0	841	841	0	0	
367	0	0	1622	1622	0	0	
Total	1570	1570	60750	60750	1731	1731	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
253	0	0	404	404	325	325	
258	130	130	819	819	0	0	
259	0	0	1188	1188	0	0	
266	58	58	1517	1517	0	0	
267	2131	2131	1274	1274	0	0	
278	0	0	1321	1321	0	0	
280	0	0	211	211	0	0	
286	0	0	613	613	0	0	
287	0	0	801	801	0	0	
290	15	15	3649	3649	0	0	
291	0	0	31	31	0	0	
292	0	0	1040	1040	0	0	
293	58	58	993	993	0	0	
298	68	68	3483	3483	0	0	
299	7	7	564	564	0	0	
306	21	21	1172	1172	0	0	
307	7	7	1081	1081	0	0	
308	0	0	3686	3686	0	0	
310	0	0	398	398	0	0	
314	28	28	1838	1838	0	0	
315	0	0	1204	1204	0	0	
318	0	0	264	264	0	0	
319	0	0	618	618	0	0	
320	0	0	1698	1698	0	0	
321	0	0	1772	1772	0	0	
322	14	14	1028	1028	0	0	
323	7	7	3442	3442	0	0	
324	34	34	1198	1198	0	0	
325	0	0	1690	1690	0	0	
330	0	0	2293	2293	0	0	

Metals and pH TMDLs for the Tygart Valley River Watershed

331	21	21	1145	1145	1405	1405	
334	0	0	1311	1311	0	0	
335	7	7	1603	1603	0	0	
336	0	0	915	915	0	0	
337	0	0	34	34	0	0	
339	0	0	1344	1344	0	0	
340	41	41	1292	1292	0	0	
342	0	0	1093	1093	0	0	
344	0	0	2325	2325	0	0	
362	21	21	1111	1111	0	0	
363	0	0	30	30	0	0	
366	0	0	809	809	0	0	
367	0	0	1531	1531	0	0	
Total	2667	2667	55834	55834	1730	1730	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
253	0	0	147	147	279	279	
258	125	125	322	322	0	0	
259	0	0	529	529	0	0	
266	47	47	727	727	0	0	
267	2488	1806	570	570	0	0	x
278	0	0	664	664	0	0	
280	0	0	83	83	0	0	
286	0	0	274	274	0	0	
287	0	0	344	344	0	0	
290	23	23	1809	1809	0	0	
291	0	0	15	15	0	0	
292	0	0	555	555	0	0	
293	94	94	485	485	0	0	
298	109	109	1804	1804	0	0	
299	11	11	253	253	0	0	
306	33	33	575	575	0	0	
307	11	11	525	525	0	0	
308	0	0	1858	1858	0	0	
310	0	0	193	193	0	0	
314	44	44	863	863	0	0	
315	0	0	594	594	0	0	
318	0	0	141	141	0	0	
319	0	0	303	303	0	0	
320	0	0	860	860	0	0	
321	0	0	887	887	0	0	
322	22	22	522	522	0	0	
323	11	11	1796	1796	0	0	
324	55	55	608	608	0	0	
325	0	0	872	872	0	0	
330	0	0	985	985	0	0	
331	33	33	517	517	1209	1209	
334	0	0	591	591	0	0	
335	11	11	707	707	0	0	
336	0	0	341	341	0	0	
337	0	0	12	12	0	0	
339	0	0	614	614	0	0	
340	66	66	535	535	0	0	
342	0	0	464	464	0	0	
344	0	0	870	870	0	0	
362	33	33	514	514	0	0	
363	0	0	19	19	0	0	
366	0	0	338	338	0	0	
367	0	0	666	666	0	0	
Total	3219	2536	26349	26349	1488	1488	

Appendix A-11

Region 11

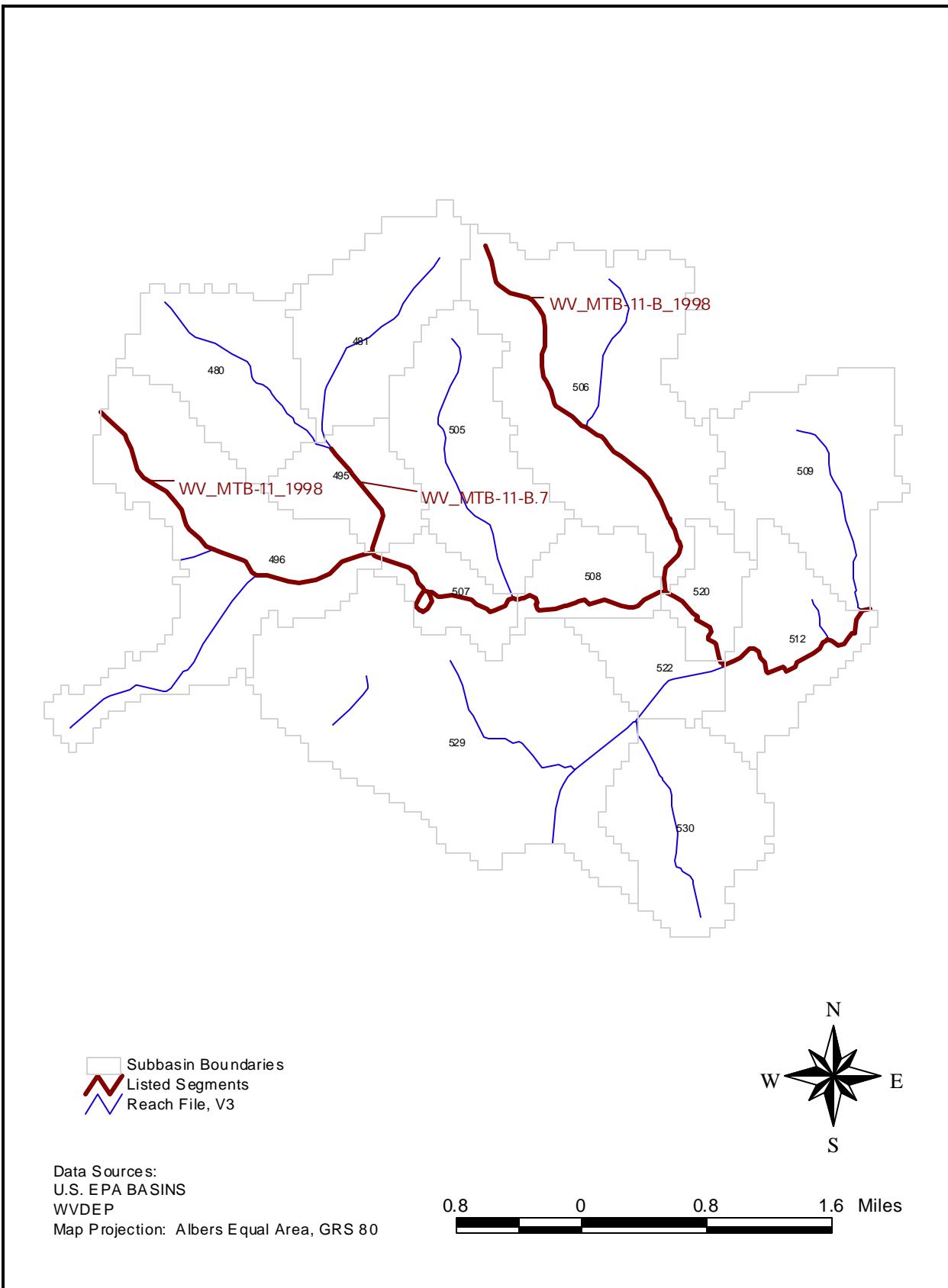


Figure 12. Region 11-Fink Run, Upshur County

Table 1. Impaired waterbodies in Region 11

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Mud lick	MTB-11-B	Iron, Manganese	506	None	B-1
Fink RN	MTB-11	pH, Metals	481,480,495,505,506,509,508, 507,520,522,496,512,529,530	None	B-1
Bridge RN	MTB-11-B.7	pH, Metals	495,480,481	None	B-1

Table 2. Locations of Abandoned Mines (seep, deep mine, and/or leaching)

SWS
506 and 495

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
495	MTB-11-B.7	2600	2600	2600	1	2-Sep-97	2-Sep-97
506	MTB-11-B	150	150	150	1	2-Sep-97	2-Sep-97
516	MTB-11	120	120	120	1	2-Sep-97	2-Sep-97

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
495	MTB-11-B.7	17000	17000	17000	1	2-Sep-97	2-Sep-97
506	MTB-11-B	1000	1000	1000	1	2-Sep-97	2-Sep-97
512	385946080142139	6667	3500	10000	3	26-Mar-80	22-Jul-81
516	MTB-11	1000	1000	1000	1	2-Sep-97	2-Sep-97

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	count	Start Date	End Date
495	MTB-11-B.7	2300	2300	2300	1	2-Sep-97	2-Sep-97
506	MTB-11-B	610	610	610	1	2-Sep-97	2-Sep-97
512	385946080142139	1070	540	2100	3	26-Mar-80	22-Jul-81
516	MTB-11	250	250	250	1	2-Sep-97	2-Sep-97

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
530	p200699	24	24	4.3

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
530	p200699	18	18	3.2

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
530	p200699	11	11	2.0

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
480	0	0	1363	1363	0	0	
481	0	0	1218	1218	0	0	
495	1603	160	506	506	0	0	x
496	0	0	2388	2388	0	0	
505	49	49	1410	1410	0	0	
506	1229	1229	2530	2530	0	0	
507	4	4	422	422	0	0	
508	1	1	615	615	0	0	
509	87	87	1468	1468	0	0	
512	16	16	805	805	0	0	
516	1	1	1214	1214	0	0	
520	522	418	355	355	0	0	x
522	0	0	558	558	0	0	
529	55	55	3768	3768	170	170	
530	0	0	1418	1418	0	0	
Total	3568	2020	20037	20037	170	170	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	

Metals and pH TMDLs for the Tygart Valley River Watershed

480	0	0	1267	1267	0	0	
481	0	0	1213	1213	0	0	
495	3969	992	544	544	0	0	x
496	0	0	2325	2325	0	0	
505	74	74	1455	1455	0	0	
506	2935	2495	2698	2698	0	0	x
507	7	7	494	494	0	0	
508	2	2	742	742	0	0	
509	131	131	1477	1477	0	0	
512	24	24	945	945	0	0	
516	2	2	1494	1494	0	0	
520	1512	1286	405	405	0	0	x
522	0	0	610	610	0	0	
529	83	83	3886	3886	170	170	
530	0	0	1277	1277	0	0	
Total	8739	5096	20831	20831	170	170	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
480	0	0	855	855	0	0	
481	0	0	701	701	0	0	
495	1600	576	310	310	0	0	x
496	0	0	1494	1494	0	0	
505	37	37	848	848	0	0	
506	1316	1316	1374	1374	0	0	
507	4	4	245	245	0	0	
508	1	1	362	362	0	0	
509	66	66	866	866	0	0	
512	12	12	473	473	0	0	
516	1	1	755	755	0	0	
520	1425	1211	188	188	0	0	x
522	0	0	360	360	0	0	
529	42	42	2535	2535	113	113	
530	0	0	787	787	0	0	
Total	4504	3267	12151	12151	113	113	

Appendix A-12

Region 12

Metals and pH TMDLs for the Tygart Valley River Watershed

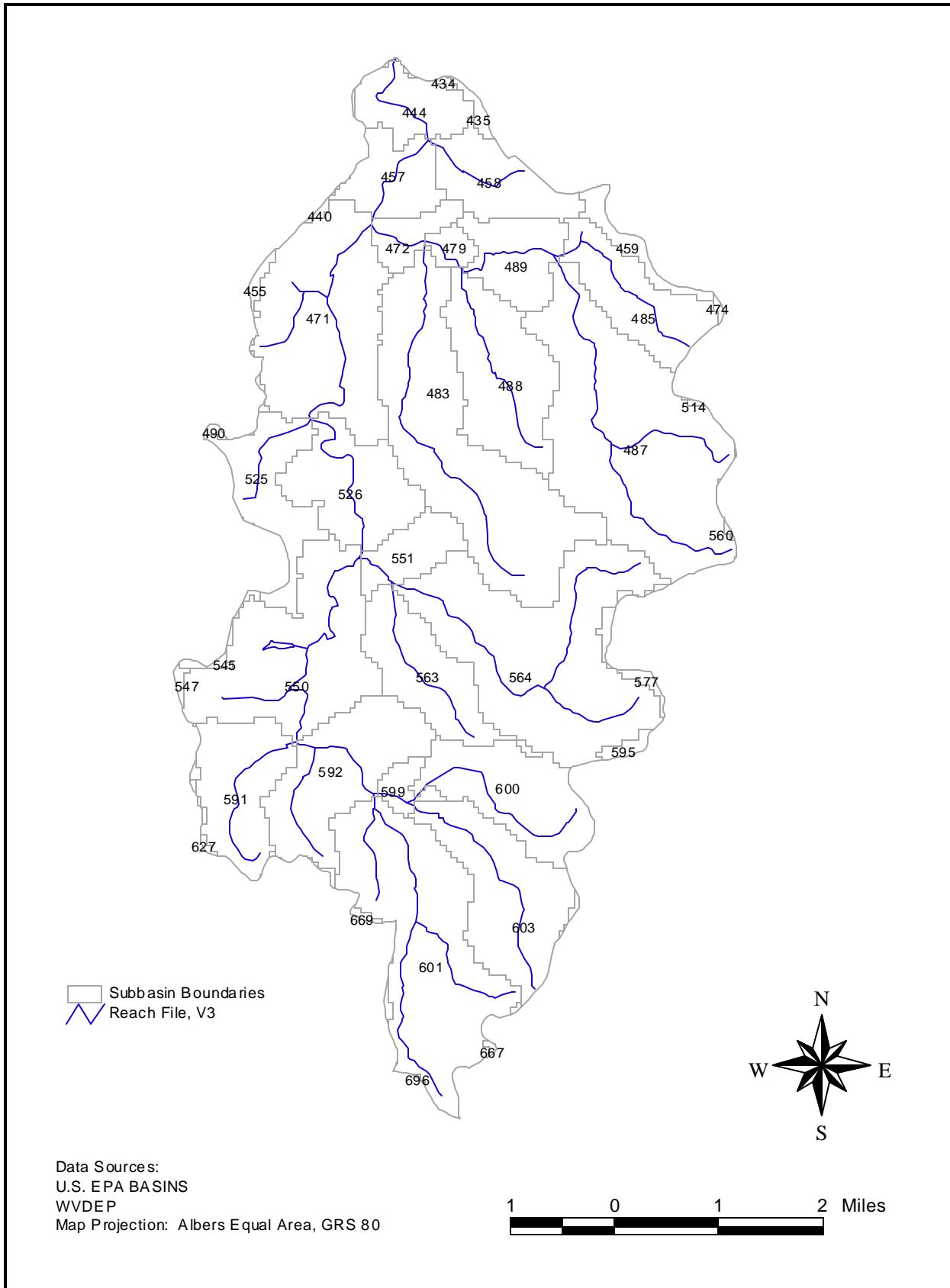


Figure 13. Region 12 - Sand Run, Upshur County

Table 1. Impaired waterbodies in Region 12
 (not applicable in this region)

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)
 (not applicable in this region)

Table 3a. Water quality data for aluminum
 (not applicable in this region)

Table 3b. Water quality data for iron
 (not applicable in this region)

Table 3c. Water quality data for manganese
 (not applicable in this region)

Table 4a. Aluminum baseline conditions for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation (lbs/yr)	Allocation (mg/L)
487	s020477	1126	1501	4.3

Table 4b. Iron baseline conditions for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation (lbs/yr)	Allocation (mg/L)
487	s020477	1126	1068	3.2

Table 4c. Manganese baseline conditions for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation (lbs/yr)	Allocation (mg/L)
487	s020477	646	554	2.0

Metals and pH TMDLs for the Tygart Valley River Watershed

Table 5a. Aluminum baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
444	0	544	0
457	0	738	0
458	0	823	0
471	0	2382	0
472	0	272	0
479	4	136	0
483	63	2434	980
485	2	1027	0
487	269	3021	1089
488	80	1121	0
489	0	644	0
525	0	1313	0
526	0	962	0
550	0	1993	0
551	0	417	0
563	0	872	0
564	253	2825	0
591	0	1319	0
592	17	1529	0
599	0	172	0
600	17	1179	0
601	263	2624	0
603	17	1460	0
Total	985	29808	2070

Table 5b. Iron baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
444	0	530	0
457	0	684	0
458	0	792	0
471	0	2205	0
472	0	266	0
479	5	129	0
483	86	2391	980
485	3	986	0
487	345	2996	1089
488	110	1113	0
489	0	614	0
525	0	1156	0
526	0	933	0
550	0	1884	0
551	0	407	0
563	0	855	0
564	338	2691	0
591	0	1177	0
592	24	1396	0

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
599	0	169	0
600	16	1133	0
601	243	2615	0
603	20	1403	0
Total	1191	28525	2070

Table 5c. Manganese baseline conditions for nonpoint sources

SWS	AML Baseline (lbs/yr)	Nonpoint Baseline (lbs/yr)	Revoked Mine Baseline (lbs/yr)
444	0	207	0
457	0	306	0
458	0	323	0
471	0	1021	0
472	0	101	0
479	3	54	0
483	48	912	563
485	2	440	0
487	246	1214	625
488	61	406	0
489	0	255	0
525	0	621	0
526	0	368	0
550	0	802	0
551	0	160	0
563	0	324	0
564	209	1129	0
591	0	607	0
592	13	669	0
599	0	65	0
600	25	464	0
601	391	1124	0
603	19	579	0
Total	1017	12153	1187

Appendix A-13

Region 13

Metals and pH TMDLs for the Tygart Valley River Watershed

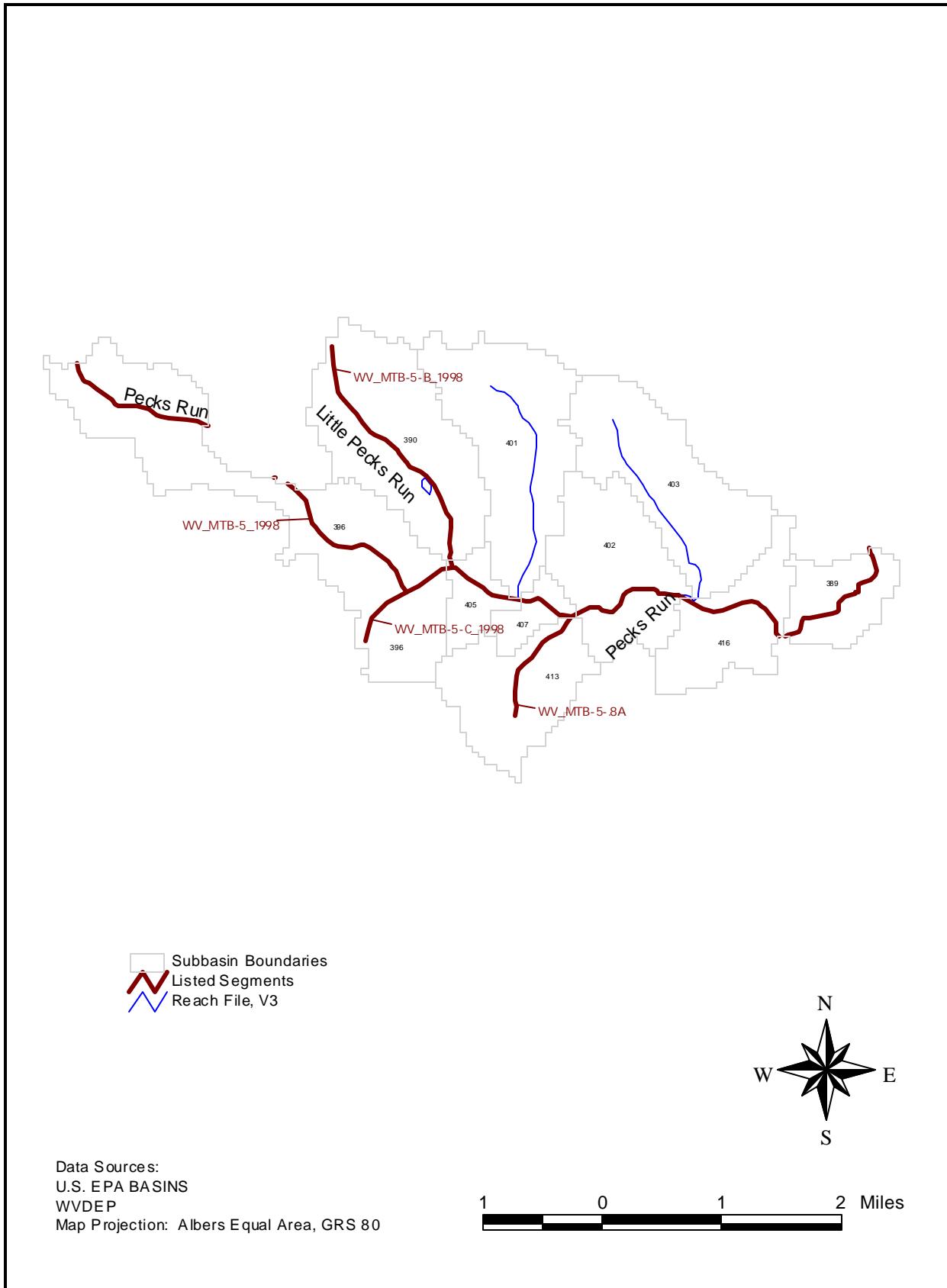


Figure 14. Region 13-Pecks Run, Upshur County

Table 1. Impaired waterbodies in Region 13

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Pecks RN	MTB-5	pH, Metals	390,401,403,389,405,407, 402,396,416,413, 418	None	B-1
Little Pecks Run	MTB-5-B	Mn, Fe	390	None	B-1
Mud RN/Pecks RN	MTB-5-C	Metals	396, 390	None	B-1
U.T./Pecks RN	MTB-5-8A	pH, Metals	413	None	B-1

Table 2. Location of abandoned mines (seep, deep mine, and/or leaching)

SWS
413 and 390

Table 3a. Water quality for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
389	MTB-05	50	50	50	1	16-Sep-97	16-Sep-97
390	MTB-05-B	140	140	140	1	17-Sep-97	17-Sep-97

Table 3b. Water quality for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
389	MTB-05	67	67	67	1	16-Sep-97	16-Sep-97
390	MTB-05-B	780	780	780	1	17-Sep-97	17-Sep-97
402	390334080091839	1750	1300	2200	2	26-Mar-80	22-Jul-81

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
389	MTB-05	23	23	23	1	16-Sep-97	16-Sep-97
390	MTB-05-B	1580	1580	1580	1	17-Sep-97	17-Sep-97
402	390334080091839	783	320	1500	3	26-Mar-80	22-Jul-81

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
401	s201087	525	440	3.6
402	o202586	417	417	4.3
402	s200996	875	875	4.3

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
401	s201087	384	384	3.2
402	o202586	311	311	3.2
402	s200996	639	639	3.2

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
401	s201087	246	246	2.0
402	o202586	197	197	2.0
402	s200996	411	411	2.0

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
389	19	19	586	586	0	0	
390	42	42	1879	1879	0	0	
396	99	99	2815	2815	0	0	
401	69	69	1710	1710	0	0	
402	186	186	1225	1225	0	0	
403	69	69	1681	1681	0	0	
405	41	41	358	358	0	0	
407	31	31	287	287	0	0	
413	466	369	1154	1154	0	0	x
416	30	30	960	960	0	0	
418	28	28	967	967	0	0	
Total	1080	983	13622	13622	0	0	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
389	29	29	727	727	0	0	
390	79	79	2325	2325	0	0	
396	165	165	3699	3699	0	0	

401	104	104	2149	2149	0	0	
402	312	312	1559	1559	0	0	
403	104	104	2148	2148	0	0	
405	62	62	504	504	0	0	
407	49	49	444	444	0	0	
413	1283	930	1520	1520	0	0	x
416	46	46	1203	1203	0	0	
418	42	42	1320	1320	0	0	
Total	2274	1921	17598	17598	0	0	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked Mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
389	14	14	370	370	0	0	
390	743	598	1289	1289	0	0	x
396	324	324	2189	2189	0	0	
401	52	52	1199	1199	0	0	
402	637	637	947	947	0	0	
403	52	52	1336	1336	0	0	
405	31	31	320	320	0	0	
407	43	43	314	314	0	0	
413	904	392	882	882	0	0	x
416	35	35	714	714	0	0	
418	21	21	840	840	0	0	
Total	2857	2199	10400	10400	0	0	

Appendix A-14

Region 14

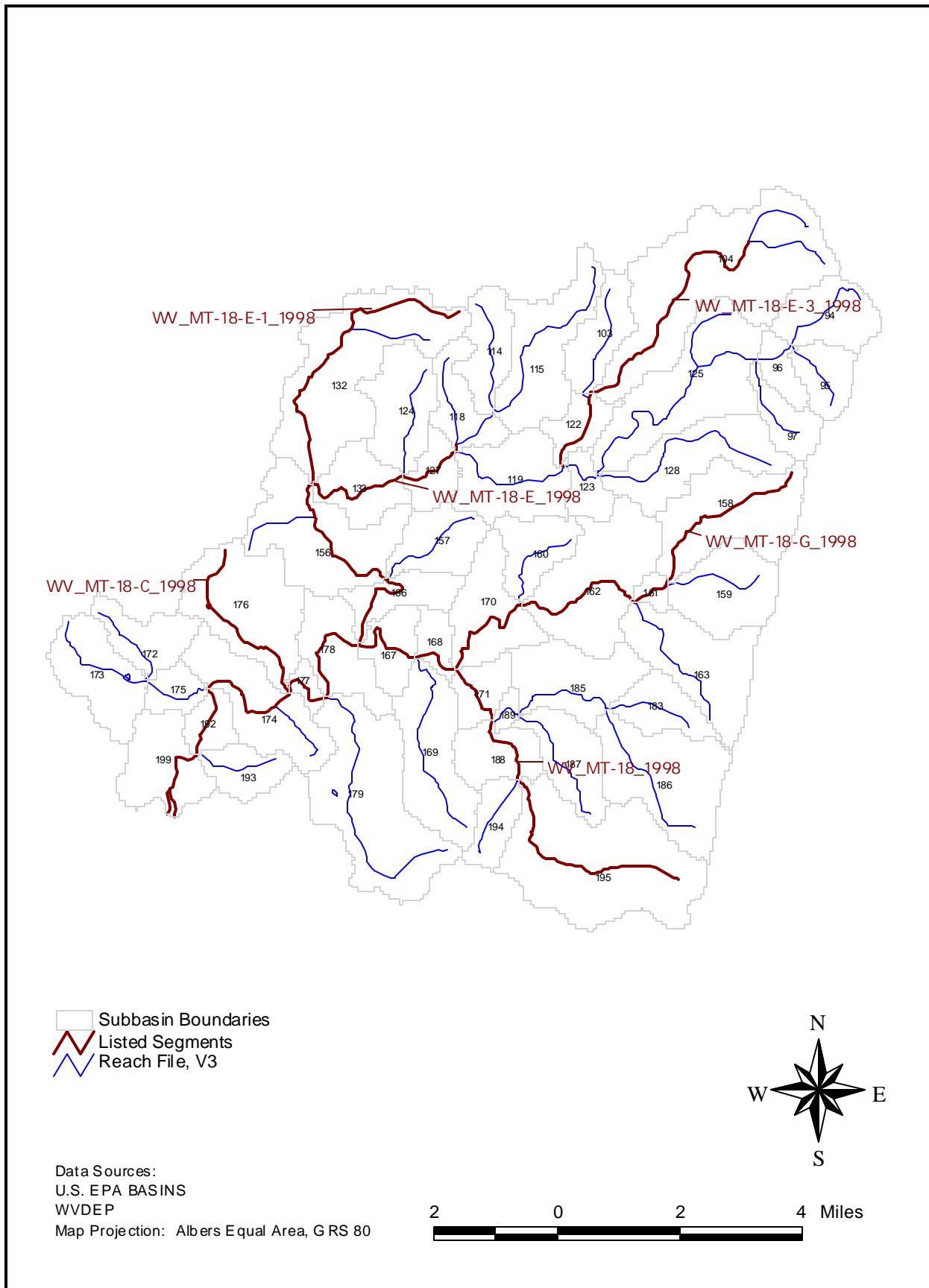


Figure 15. Region 14-Sandy Creek, Preston County

Table 1. Impaired waterbodies in Region 14

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Glade RN/Sandy CK	MT-18-C	pH, Metals	176	None	B-1
Left Fork/ Sandy CK	MT-18-G	Metals	170,160,162,161,163,159,158	None	B-1
Maple RN	MT-18-E-1	pH, Metals	132	None	B-1
Sandy CK	MT-18	pH, Metals	94,103,104,96,114,95,115,118,97,1 22,124,125,132,127,128,123,133,1 19,157,158,156,160,161,159,166,1 62,170,172,168,176,167,175,177,1 78,171,189,185,173,183,163,192,1 74,188,193,199,187,169,186,194,1 79,195	None	B-1
Little Sandy CK	MT-18-E	pH, Metals	166,156,157,133,132,127,124,118, 119,123,122,115,114,128,103,125, 97,96,95,94,104, 125	None	B-1
Left Fork/ LL Sandy CK	MT-18-E-3	pH, Metals	103, 104, 122	None	B-1

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)

SWS
104, 132 and 158

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
103	MT-18-E-3-A-{1}	300	300	300	1	03-Sep-97	03-Sep-97
166	MT-18-E-{00.40}	10000	10000	10000	1	04-Sep-97	04-Sep-97
171	MT-18-{09.60}	210	210	210	1	03-Sep-97	03-Sep-97
174	550852	2585	700	7000	12	04-Jun-80	14-Jun-84
199	4TYG12112	5667	1440	12760	10	11-May-83	18-Oct-83

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
103	MT-18-E-3-A-{1}	670	670	670	1	03-Sep-97	03-Sep-97
127	391958079520739	4733	3200	6700	3	27-Mar-80	23-Jul-81
166	MT-18-E-{00.40}	1700	1700	1700	1	04-Sep-97	04-Sep-97
171	MT-18-{09.60}	340	340	340	1	03-Sep-97	03-Sep-97
174	550852	1058	260	2300	19	20-Feb-80	12-Sep-84
177	391722079543439	1467	1300	1700	3	27-Mar-80	23-Jul-81
199	4TYG12112	582	100	1700	11	27-Apr-83	18-Oct-83

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
103	MT-18-E-3-A-{1}	50	50	50	1	03-Sep-97	03-Sep-97
127	391958079520739	310	140	530	3	27-Mar-80	23-Jul-81
166	MT-18-E-{00.40}	1000	1000	1000	1	04-Sep-97	04-Sep-97
171	MT-18-{09.60}	47	47	47	1	03-Sep-97	03-Sep-97
174	550852	395	126	1060	19	20-Feb-80	12-Sep-84
177	391722079543439	473	200	900	3	27-Mar-80	23-Jul-81
199	4TYG12112	849	140	1910	11	27-Apr-83	18-Oct-83

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
103	u100798	5729	1135	0.9
103	u101492	391	77	0.8
118	p101199	27	27	4.3
132	s006183	2206	1662	3.2

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
103	u100798	4264	2638	2.0
103	u101492	291	180	2.0
118	p101199	20	20	3.2
132	s006183	1642	1642	3.2

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
103	u100798	2285	1517	2.0
103	u101492	156	103	2.0
118	p101199	11	11	2.0
132	s006183	881	881	2.0

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
103	0	0	577	577	0	0	
104	8703	784	3606	3606	1790	1790	x
114	0	0	773	773	0	0	
115	0	0	1754	1754	0	0	
118	83	0	717	717	0	0	x
119	0	83	1468	1468	843	843	
122	0	0	477	477	0	0	
123	0	0	446	446	0	0	

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
124	7	7	1372	1372	0	0	
125	0	0	2195	2195	0	0	
127	0	0	661	661	0	0	
128	99	99	1400	1400	0	0	x
132	7081	185	2981	2981	0	0	x
133	0	0	996	996	0	0	
156	0	0	2287	2287	733	733	
157	0	0	1198	1198	0	0	
158	3841	35	1405	1405	7577	1742	x
159	414	414	937	937	2785	1070	x
160	0	0	981	981	0	0	
161	0	0	173	173	0	0	
162	0	0	2298	2298	0	0	
163	0	0	1386	1386	0	0	
166	0	0	1008	1008	0	0	
167	0	0	658	658	0	0	
168	0	0	504	504	0	0	
169	0	0	1801	1801	0	0	
170	0	0	1706	1706	0	0	
171	0	0	507	507	0	0	
172	0	0	955	955	0	0	
173	0	0	1718	1718	0	0	
174	0	0	1540	1540	0	0	
175	0	5	486	486	0	0	
176	0	0	2328	2328	2162	1297	x
177	0	0	201	201	0	0	
178	0	0	1086	1086	0	0	
179	0	0	3243	3243	0	0	
183	0	0	625	625	0	0	
185	0	0	1731	1731	0	0	
186	0	0	1618	1618	0	0	
187	0	0	935	935	0	0	
188	0	0	752	752	0	0	
189	0	0	168	168	0	0	
192	0	0	397	397	0	0	
193	0	0	720	720	0	0	
194	0	0	597	597	0	0	
195	0	0	2971	2971	0	0	
199	0	0	1083	1083	0	0	
94	0	0	884	884	1083	1083	
95	0	0	485	485	0	0	
96	0	0	375	375	0	0	
97	7	7	488	488	0	0	
Total	20236	1607	61660	61660	16972	8558	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
103	0	0	533	533	0	0	
104	130042	3984	3396	3396	1790	1790	x
114	0	0	730	730	0	0	
115	0	0	1643	1643	0	0	
118	77	77	684	684	0	0	
119	0	0	1360	1360	843	843	
122	0	0	450	450	0	0	
123	0	0	415	415	0	0	
124	7	7	1256	1256	0	0	
125	0	0	2079	2079	0	0	
127	0	0	607	607	0	0	
128	137	137	1353	1353	0	0	
132	21821	476	2765	2765	0	0	x
133	0	0	899	899	0	0	
156	0	0	2086	2086	733	733	
157	0	0	1074	1074	0	0	
158	3932	366	1369	1369	7577	5001	x
159	571	571	919	919	2785	2028	x
160	0	0	873	873	0	0	
161	0	0	162	162	0	0	
162	0	0	2107	2107	0	0	
163	0	0	1359	1359	0	0	
166	0	0	856	856	0	0	
167	0	0	618	618	0	0	
168	0	0	448	448	0	0	
169	0	0	1644	1644	0	0	
170	0	0	1496	1496	0	0	
171	0	0	481	481	0	0	
172	0	0	864	864	0	0	
173	0	0	1506	1506	0	0	
174	0	0	1434	1434	0	0	
175	0	0	449	449	0	0	
176	0	0	2051	2051	2162	2162	
177	0	0	178	178	0	0	
178	0	0	994	994	0	0	
179	0	0	2966	2966	0	0	
183	0	0	610	610	0	0	
185	0	0	1550	1550	0	0	
186	0	0	1604	1604	0	0	
187	0	0	895	895	0	0	
188	0	0	718	718	0	0	
189	0	0	151	151	0	0	
192	0	0	379	379	0	0	
193	0	0	630	630	0	0	
194	0	0	552	552	0	0	
195	0	0	2870	2870	0	0	
199	0	0	1064	1064	0	0	
94	0	0	838	838	1448	1448	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
95	0	0	475	475	0	0	
96	0	0	346	346	0	0	
97	10	10	470	470	0	0	
Total	156597	5628	57254	57254	17338	14004	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reductio n
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
103	0	0	314	314	0	0	
104	8343	1048	1969	1969	1024	1024	x
114	0	0	418	418	0	0	
115	0	0	1017	1017	0	0	
118	124	124	395	395	0	0	
119	0	0	853	853	483	483	
122	0	0	261	261	0	0	
123	0	0	267	267	0	0	
124	11	11	838	838	0	0	
125	0	0	1188	1188	0	0	
127	0	0	420	420	0	0	
128	76	76	773	773	0	0	
132	4288	151	1705	1705	0	0	x
133	0	0	593	593	0	0	
156	0	0	1353	1353	420	420	
157	0	0	788	788	0	0	
158	4419	225	747	747	4335	2601	x
159	317	317	493	493	1595	1085	x
160	0	0	594	594	0	0	
161	0	0	96	96	0	0	
162	0	0	1331	1331	0	0	
163	0	0	709	709	0	0	
166	0	0	619	619	0	0	
167	0	0	393	393	0	0	
168	0	0	331	331	0	0	
169	0	0	1028	1028	0	0	
170	0	0	1090	1090	0	0	
171	0	0	288	288	0	0	
172	0	0	585	585	0	0	
173	0	0	1100	1100	0	0	
174	0	0	850	850	0	0	
175	0	0	305	305	0	0	
176	0	0	1384	1384	1238	1238	
177	0	0	108	108	0	0	
178	0	0	607	607	0	0	
179	0	0	1934	1934	0	0	
183	0	0	330	330	0	0	
185	0	0	1083	1083	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
186	0	0	830	830	0	0	
187	0	0	520	520	0	0	
188	0	0	420	420	0	0	
189	0	0	107	107	0	0	
192	0	0	215	215	0	0	
193	0	0	411	411	0	0	
194	0	0	339	339	0	0	
195	0	0	1561	1561	0	0	
199	0	0	621	621	0	0	
94	0	0	471	471	2138	2138	
95	0	0	246	246	0	0	
96	0	0	202	202	0	0	
97	6	6	263	263	0	0	
Total	17583	1958	35362	35362	11232	8987	

Appendix A-15

Region 15

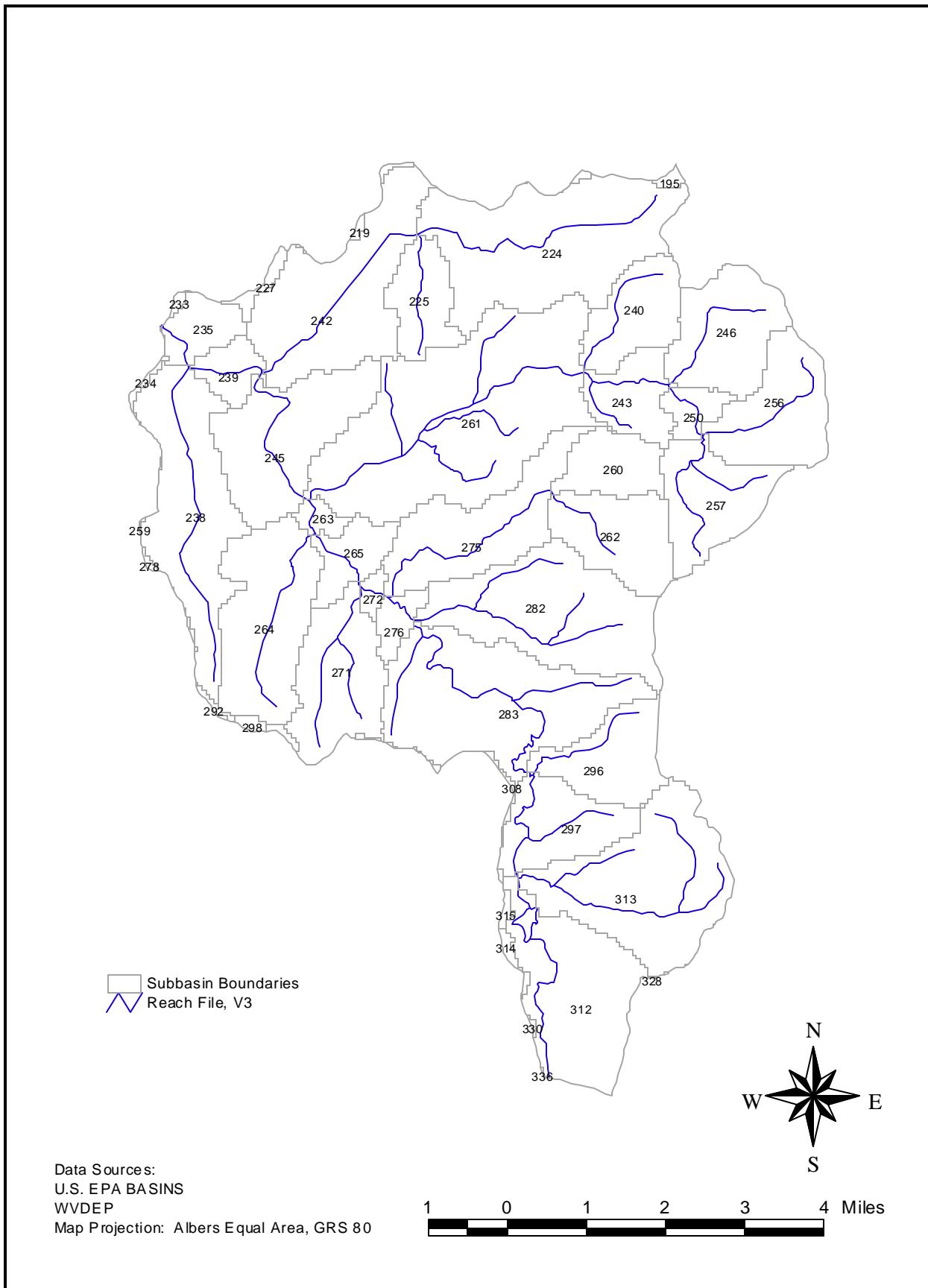


Figure 16. Region 15 - Teter Creek, Barbour County

Table 1. Impaired waterbodies in Region 15
(not applicable in this region)**Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)**
(not applicable in this region)**Table 3a. Water quality data for aluminum**
(not applicable in this region)**Table 3b. Water quality data for iron**
(not applicable in this region)**Table 3c. Water quality data for manganese**
(not applicable in this region)**Table 4a. Aluminum baseline conditions for permitted mining point sources**

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
243	q200495	157	NAA*	NAA
243	q201489	335	NAA	NAA

* NAA - No allocation applied

Table 4b. Iron baseline conditions for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
243	q200495	192	NAA*	NAA
243	q201489	409	NAA	NAA

* NAA - No allocation applied

Table 4c. Manganese baseline conditions for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
243	q200495	197	NAA*	NAA
243	q201489	419	NAA	NAA

* NAA - No allocation applied

Table 5a. Aluminum baseline conditions for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
224	0	0	3800	3800	0	0	
225	0	0	1127	1127	0	0	
235	0	0	639	639	0	0	
238	0	0	3411	3411	0	0	
239	0	0	477	477	0	0	
240	0	0	1015	1015	0	0	
242	0	0	3284	3284	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
243	0	0	633	633	0	0	
245	0	0	2413	2413	0	0	
246	0	0	1653	1653	0	0	
250	0	0	323	323	0	0	
256	0	0	1661	1661	0	0	
257	212	212	1303	1303	0	0	
260	0	0	771	771	0	0	
261	0	0	6950	6950	0	0	
262	8	11	1183	1183	83	83	
263	0	0	207	207	0	0	
264	15	15	2755	2755	0	0	
265	0	0	722	722	0	0	
271	0	0	2115	2115	0	0	
272	0	0	180	180	0	0	
275	0	0	2311	2311	0	0	
276	0	0	339	339	0	0	
282	0	0	2893	2893	0	0	
283	0	0	3470	3470	0	0	
296	0	0	1175	1175	0	0	
297	0	0	1396	1396	0	0	
312	0	0	2689	2689	0	0	
313	0	0	2914	2914	0	0	
Total	235	235	53807	53807	83	83	

Table 5b. Iron baseline conditions for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
224	0	0	3787	3787	0	0	
225	0	0	1112	1112	0	0	
235	0	0	635	635	0	0	
238	0	0	3375	3375	0	0	
239	0	0	477	477	0	0	
240	0	0	1045	1045	0	0	
242	0	0	3252	3252	0	0	
243	0	0	661	661	0	0	
245	0	0	2397	2397	0	0	
246	0	0	1722	1722	0	0	
250	0	0	336	336	0	0	
256	0	0	1693	1693	0	0	
257	383	383	1336	1336	0	0	
260	0	0	789	789	0	0	
261	0	0	6854	6854	0	0	
262	14	14	1206	1206	101	101	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
263	0	0	206	206	0	0	
264	14	14	2724	2724	0	0	
265	0	0	715	715	0	0	
271	0	0	2092	2092	0	0	
272	0	0	177	177	0	0	
275	0	0	2285	2285	0	0	
276	0	0	340	340	0	0	
282	0	0	2883	2883	0	0	
283	0	0	3464	3464	0	0	
296	0	0	1200	1200	0	0	
297	0	0	1392	1392	0	0	
312	0	0	2687	2687	0	0	
313	0	0	2978	2978	0	0	
Total	410	410	53819	53819	101	101	

Table 5c. Manganese baseline conditions for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
224	0	0	1519	1519	0	0	
225	0	0	547	547	0	0	
235	0	0	276	276	0	0	
238	0	0	1576	1576	0	0	
239	0	0	201	201	0	0	
240	0	0	444	444	0	0	
242	0	0	1442	1442	0	0	
243	0	0	278	278	0	0	
245	0	0	1044	1044	0	0	
246	0	0	733	733	0	0	
250	0	0	142	142	0	0	
256	0	0	747	747	0	0	
257	233	233	573	573	0	0	
260	0	0	341	341	0	0	
261	0	0	3334	3334	0	0	
262	8	8	521	521	103	103	
263	0	0	86	86	0	0	
264	22	22	1289	1289	0	0	
265	0	0	321	321	0	0	
271	0	0	981	981	0	0	
272	0	0	94	94	0	0	
275	0	0	1070	1070	0	0	
276	0	0	147	147	0	0	
282	0	0	1120	1120	0	0	
283	0	0	1392	1392	0	0	
296	0	0	517	517	0	0	
297	0	0	590	590	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
312	0	0	1007	1007	0	0	
313	0	0	1282	1282	0	0	
Total	263	263	23611	23611	103	103	

Appendix A-16

Region 16

**Figure 17.** Region 16- Three Fork Creek, Preston County

Table 1. Impaired waterbodies in Region 16

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Threefork CK	MT-12	pH, Metals	1,2,3,6,7,10,4,5,12,9,13,14,8,18,17, 21,20,15,11,24,22,28,26,16,29,30,3 2,38,34,35,19,33,36,39,40,31,42,44, 45,27,41,46,49,43,37,48,47,54,55,5 7,62,58,56,66,64,70,63,59,71,78,65, 85,67,79,90,84,92,110,111,120,126, 113,130,138,141,144,148,121,139,1 47,145,143,152,23	None	B-1
Little Racoone CR	MT-12-C-2	Metals	65	None	B-1
Racoone CR	MT-12-C	pH, Metals	54,55,57,62,58,56,64,63,59,65,67	None	B-1
Squires CK	MT-12-I	pH, Metals	7,8,10,12,18	None	B-1
Birds CK	MT-12-H	pH, Metals	17,20,15,16,38,34,19,39,40,41,37	None	B-1
Brains CK	MT-12-G-2	pH, Metals	11	None	B-1

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)

SWS
15,16,17,19,41,56,58,7, 8, and 18

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
376	4TYG12218	6893	360	86110	14	09-May-83	17-May-84
376	551108	571	100	3600	35	18-Jun-91	26-Oct-94
428	MTM-00.5-{0.6}	280	280	280	1	25-Aug-97	25-Aug-97
475	551109	587	100	4900	40	18-Jun-91	26-Oct-94
514	MTM-03	230	230	230	1	25-Aug-97	25-Aug-97
540	551110	1360	1	3340	40	27-Jun-91	26-Oct-94
560	MTM-07	130	130	130	1	26-Aug-97	26-Aug-97
561	551111	2193	450	9130	40	27-Jun-91	26-Oct-94
577	551112	7631	400	27000	40	27-Jun-91	26-Oct-94
596	551113	852	100	6370	40	18-Jun-91	26-Oct-94
643	MTM-11-{0.3}	50	50	50	1	26-Aug-97	26-Aug-97

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
376	4TYG12218	8964	100	120600	14	30445	30819
376	551108	876	80	21600	35	33407	34633
428	MTM-00.5-{0.6}	740	740	740	1	35667	35667
475	551109	256	15	900	40	33407	34633
514	MTM-03	3800	3800	3800	1	35667	35667
540	551110	198	15	2500	40	33416	34633

560	MTM-07	430	430	430	1	35668	35668
561	551111	162	60	400	40	33416	34633
577	551112	739	35	1760	40	33416	34633
596	551113	316	15	2900	40	33407	34633
643	385346080065239	675	150	1200	2	29302	29455
643	MTM-11-{0.3}	310	310	310	1	35668	35668

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
376	4TYG12218	1782	170	16370	14	09-May-83	17-May-84
376	551108	534	15	8400	35	18-Jun-91	26-Oct-94
428	MTM-00.5-{0.6}	62	62	62	1	25-Aug-97	25-Aug-97
475	551109	359	5	900	40	18-Jun-91	26-Oct-94
514	MTM-03	4100	4100	4100	1	25-Aug-97	25-Aug-97
540	551110	657	45	1420	40	27-Jun-91	26-Oct-94
560	MTM-07	130	130	130	1	26-Aug-97	26-Aug-97
561	551111	607	20	2550	40	27-Jun-91	26-Oct-94
577	551112	7297	130	21000	40	27-Jun-91	26-Oct-94
596	551113	555	5	4670	40	18-Jun-91	26-Oct-94
643	385346080065239	50	40	60	2	22-Mar-80	22-Aug-80
643	MTM-11-{0.3}	42	42	42	1	26-Aug-97	26-Aug-97

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
10	o002384	1050	168	0.8
10	s003684	3618	578	0.8
10	s011982*	4029	749	0.8
11	s005284	919	717	3.4
11	s100293	1568	1223	3.4
12	u108086	283	283	4.3
15	u008784	1332	946	3.1
16	u100494	425	243	2.5
18	o101286	1816	1240	2.6
18	s011982*	1331	798	2.6
18	u104186	397	271	2.6
27	p101200	27	27	4.3
27	p102897	27	27	4.3
4	u101186	283	108	2.0
4	s011982*	1449	666	2.0
40	s102288	2033	1095	1.6
41	d011382	183	183	4.3
41	s100298	683	683	4.3
5	s101488	3361	797	1.0
55	u100893	1016	475	2.0
59	o100898	4519	1312	1.2
62	p100700	27	27	4.3
62	s102587	683	683	4.3
65	s103691	840	840	4.3

67	s005378	657	657	4.3
7	s105886	2678	448	0.8

* Permit s011982 discharges to three subwatersheds. The load allocations are designated to each specific subwatershed.

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
10	o002384	781	350	1.7
10	s003684	2692	1201	1.7
10	s011982*	3004	1559	17
11	s005284	684	684	3.2
11	s100293	1166	1166	3.2
12	u108086	211	211	3.2
15	u008784	992	992	3.2
16	u100494	316	316	3.2
18	o101286	2067	2067	3.2
18	s011982*	1331	1331	3.2
18	u104186	452	452	3.2
27	p101200	20	20	3.2
27	p102897	20	20	3.2
4	u101186	175	175	3.2
4	s011982*	1083	1083	3.2
40	s102288	2257	2257	3.2
41	d011382	136	136	3.2
41	s100298	508	508	3.2
5	s101488	2501	1782	2.3
55	u100893	756	756	3.2
59	o100898	3363	3363	3.2
62	p100700	20	20	3.2
62	s102587	508	508	3.2
65	s103691	625	625	3.2
67	s005378	489	489	3.2
7	s105886	1712	1083	2.0

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
10	o002384	415	219	1.0
10	s003684	1444	752	1.0
10	s011982*	1877	976	1.0
11	s005284	370	370	2.0
11	s100293	632	632	2.0
12	u108086	113	113	2.0
15	u008784	531	531	2.0
16	u100494	170	170	2.0
18	o101286	1371	1371	2.0
18	s011982*	883	883	2.0
18	u104186	300	300	2.0
27	p101200	11	11	2.0
27	p102897	11	11	2.0
4	u101186	111	111	2.0
4	s011982*	685	685	2.0
40	s102288	1418	1418	2.0
41	d011382	73	73	2.0
41	s100298	836	836	2.0
5	s101488	1342	1092	1.6

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
55	u100893	405	405	2.0
59	o100898	1783	1780	2.0
62	p100700	11	11	2.0
62	s102587	273	273	2.0
65	s103691	336	336	2.0
67	s005378	262	262	2.0
7	s105886	1069	663	1.2

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
1	0	0	844	844	0	0	
10	0	0	621	621	0	0	
11	15	15	2628	2628	3384	413	x
110	0	0	464	464	0	0	
111	0	0	581	581	0	0	
112	0	0	5	5	0	0	
113	0	0	931	931	0	0	
12	9	9	82	82	0	0	
120	0	0	237	237	0	0	
121	0	0	992	992	0	0	
126	0	0	593	593	0	0	
13	0	0	531	531	0	0	
130	0	0	116	116	0	0	
138	0	0	581	581	0	0	
139	0	0	844	844	0	0	
14	0	0	437	437	0	0	
141	0	0	395	395	0	0	
143	84	84	990	990	1686	1686	
144	0	0	165	165	0	0	
145	0	0	791	791	0	0	
147	0	0	340	340	0	0	
148	0	0	1071	1071	0	0	
15	222	144	1527	1527	1391	140	x
152	0	0	1679	1679	0	0	
16	292	41	517	517	0	0	x
17	87	36	203	203	0	0	x
18	47	47	1026	1026	0	0	
19	6013	1372	735	735	404	404	
2	35	35	1881	1881	277	277	
20	43	43	43	43	0	0	
21	158	158	655	655	0	0	
22	0	0	1107	1107	0	0	
23	0	0	22	22	0	0	
24	0	0	679	679	0	0	
26	0	0	204	204	0	0	
27	18	18	1058	1058	0	0	
28	0	0	741	741	0	0	
29	0	0	62	62	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
3	0	0	1906	1906	0	0	
30	0	0	627	627	0	0	
31	0	0	1074	1074	0	0	
32	0	0	1236	1236	0	0	
33	0	0	1148	1148	0	0	
34	15	15	158	158	0	0	
35	0	0	334	334	0	0	
36	0	0	394	394	0	0	
37	226	226	874	874	0	0	
38	88	88	698	698	0	0	
39	8	8	52	52	0	0	
4	27	27	847	847	0	0	
40	846	106	500	500	1866	378	x
41	1447	234	1005	1005	2466	269	x
42	0	0	1049	1049	0	0	
43	0	0	59	59	0	0	
44	0	0	520	520	0	0	
45	0	0	446	446	0	0	
46	0	0	48	48	0	0	
47	0	0	1430	1430	0	0	
48	0	0	137	137	0	0	
49	5	5	1982	1982	0	0	
5	75	75	1093	1093	0	0	
54	116	116	804	804	0	0	
55	22	22	693	693	1759	192	x
56	2659	196	1077	1077	770	770	x
57	61	61	508	508	2567	606	x
58	3806	678	1044	1044	0	0	x
59	0	0	645	645	0	0	
6	0	0	596	596	0	0	
62	22	22	1927	1927	0	0	
63	11	11	750	750	0	0	
64	0	0	514	514	0	0	
65	38	38	1681	1681	0	0	
66	95	95	1484	1484	0	0	
67	85	85	1493	1493	0	0	
7	4429	72	493	493	0	0	x
70	0	0	472	472	0	0	
71	0	0	1009	1009	0	0	
78	37	37	286	286	0	0	
79	8	8	1635	1635	0	0	
8	2316	487	724	724	0	0	x
84	0	0	632	632	0	0	
85	0	0	56	56	0	0	
9	0	0	700	700	0	0	
90	0	0	78	78	0	0	
92	0	0	498	498	0	0	
Total	23466	4720	63794	63794	17070	5101	

Metals and pH TMDLs for the Tygart Valley River Watershed

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
1	0	0	824	824	0	0	
10	0	0	621	621	0	0	
11	14	14	2336	2336	3384	413	x
110	0	0	462	462	0	0	
111	0	0	555	555	0	0	
112	0	0	5	5	0	0	
113	0	0	904	904	0	0	
12	12	12	81	81	0	0	
120	0	0	231	231	0	0	
121	0	0	976	976	0	0	
126	0	0	572	572	0	0	
13	0	0	498	498	0	0	
130	0	0	117	117	0	0	
138	0	0	540	540	0	0	
139	0	0	815	815	0	0	
14	0	0	390	390	0	0	
141	0	0	384	384	0	0	
143	77	77	956	956	1686	1686	
144	0	0	159	159	0	0	
145	0	0	759	759	0	0	
147	0	0	369	369	0	0	
148	0	0	1031	1031	0	0	
15	205	195	1469	1469	1391	1246	x
152	0	0	1578	1578	0	0	
16	383	355	497	497	0	0	x
17	81	74	196	196	0	0	x
18	65	65	995	995	0	0	
19	18311	4219	688	688	404	404	x
2	32	32	1765	1765	277	277	
20	39	39	43	43	0	0	
21	204	204	600	600	0	0	
22	0	0	1019	1019	0	0	
23	0	0	23	23	0	0	
24	0	0	653	653	0	0	
26	0	0	191	191	0	0	
27	22	22	1043	1043	0	0	
28	0	0	692	692	0	0	
29	0	0	58	58	0	0	
3	0	0	1688	1688	0	0	
30	0	0	586	586	0	0	
31	0	0	951	951	0	0	
32	0	0	1102	1102	0	0	
33	0	0	1091	1091	0	0	
34	21	21	154	154	0	0	
35	0	0	321	321	0	0	
36	0	0	383	383	0	0	
37	252	252	865	865	0	0	
38	92	92	678	678	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
39	11	11	52	52	0	0	
4	38	38	777	777	0	0	
40	1160	530	484	484	1866	857	x
41	6330	220	996	996	2466	2124	x
42	0	0	1014	1014	0	0	
43	0	0	55	55	0	0	
44	0	0	492	492	0	0	
45	0	0	436	436	0	0	
46	0	0	47	47	0	0	
47	0	0	1299	1299	0	0	
48	0	0	137	137	0	0	
49	7	7	1905	1905	0	0	
5	69	69	1001	1001	0	0	
54	138	138	797	797	0	0	
55	21	21	692	692	1759	962	x
56	8105	1763	1074	1074	769	769	x
57	70	70	503	503	2567	1311	x
58	11699	1784	1011	1011	0	0	x
59	0	0	639	639	0	0	
6	0	0	552	552	0	0	
62	21	21	1859	1859	0	0	
63	15	15	730	730	0	0	
64	0	0	511	511	0	0	
65	35	35	1610	1610	0	0	
66	88	88	1419	1419	0	0	
67	79	79	1414	1414	0	0	
7	14209	221	490	490	0	0	x
70	0	0	456	456	0	0	
71	0	0	936	936	0	0	
78	34	34	286	286	0	0	
79	7	7	1558	1558	0	0	
8	7500	1549	722	722	0	0	x
84	0	0	609	609	0	0	
85	0	0	56	56	0	0	
9	0	0	629	629	0	0	
90	0	0	78	78	0	0	
92	0	0	490	490	0	0	
Total	69446	12373	60730	60730	12394	17060	

Table 5c. Manganese baseline conditions and allocations (LAS) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
1	0	0	441	441	0	0	
10	0	0	411	411	0	0	
11	22	22	1597	1597	2245	1571	x

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
110	0	0	236	236	0	0	
111	0	0	314	314	0	0	
112	0	0	2	2	0	0	
113	0	0	485	485	0	0	
12	7	7	45	45	0	0	
120	0	0	126	126	0	0	
121	0	0	520	520	0	0	
126	0	0	321	321	0	0	
13	0	0	311	311	0	0	
130	0	0	61	61	0	0	
138	0	0	332	332	0	0	
139	0	0	457	457	0	0	
14	0	0	255	255	0	0	
141	0	0	213	213	0	0	
143	125	125	561	561	965	965	
144	0	0	88	88	0	0	
145	0	0	415	415	0	0	
147	0	0	190	190	0	0	
148	0	0	649	649	0	0	
15	330	299	802	802	796	630	x
152	0	0	976	976	0	0	
16	257	224	278	278	0	0	x
17	130	109	105	105	0	0	x
18	36	36	549	549	0	0	
19	3730	2285	403	403	231	231	x
2	52	52	1026	1026	157	157	
20	63	63	22	22	0	0	
21	142	142	374	374	0	0	
22	0	0	660	660	0	0	
23	0	0	12	12	0	0	
24	0	0	382	382	0	0	
26	0	0	111	111	0	0	
27	20	20	544	544	0	0	
28	0	0	410	410	0	0	
29	0	0	35	35	0	0	
3	0	0	1211	1211	0	0	
30	0	0	339	339	0	0	
31	0	0	608	608	0	0	
32	0	0	721	721	0	0	
33	0	0	638	638	0	0	
34	11	11	82	82	0	0	
35	0	0	180	180	0	0	
36	0	0	208	208	0	0	
37	267	267	495	495	0	0	
38	120	120	561	561	0	0	
39	9	9	43	43	0	0	
4	21	21	516	516	0	0	
40	659	245	263	263	1230	307	x
41	5298	330	825	825	4185	324	x
42	0	0	553	553	0	0	
43	0	0	30	30	0	0	

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
44	0	0	289	289	0	0	
45	0	0	229	229	0	0	
46	0	0	24	24	0	0	
47	0	0	808	808	0	0	
48	0	0	69	69	0	0	
49	4	4	1075	1075	0	0	
5	112	112	642	642	0	0	
54	124	124	455	455	0	0	
55	33	33	410	410	1007	504	x
56	1628	290	553	553	441	441	x
57	68	68	270	270	1469	770	x
58	2317	938	572	572	0	0	x
59	0	0	328	328	0	0	
6	0	0	357	357	0	0	
62	33	33	1038	1038	0	0	
63	9	9	399	399	0	0	
64	0	0	260	260	0	0	
65	57	57	903	903	0	0	
66	142	142	800	800	0	0	
67	127	127	801	801	0	0	
7	2695	81	324	324	0	0	x
70	0	0	244	244	0	0	
71	0	0	567	567	0	0	
78	54	54	145	145	0	0	
79	12	12	904	904	0	0	
8	1426	748	376	376	0	0	x
84	0	0	338	338	0	0	
85	0	0	28	28	0	0	
9	0	0	440	440	0	0	
90	0	0	39	39	0	0	
92	0	0	262	262	0	0	
Total	20140	7219	35941	35941	12726	5902	

Appendix A-17

Region 17

Metals and pH TMDLs for the Tygart Valley River Watershed

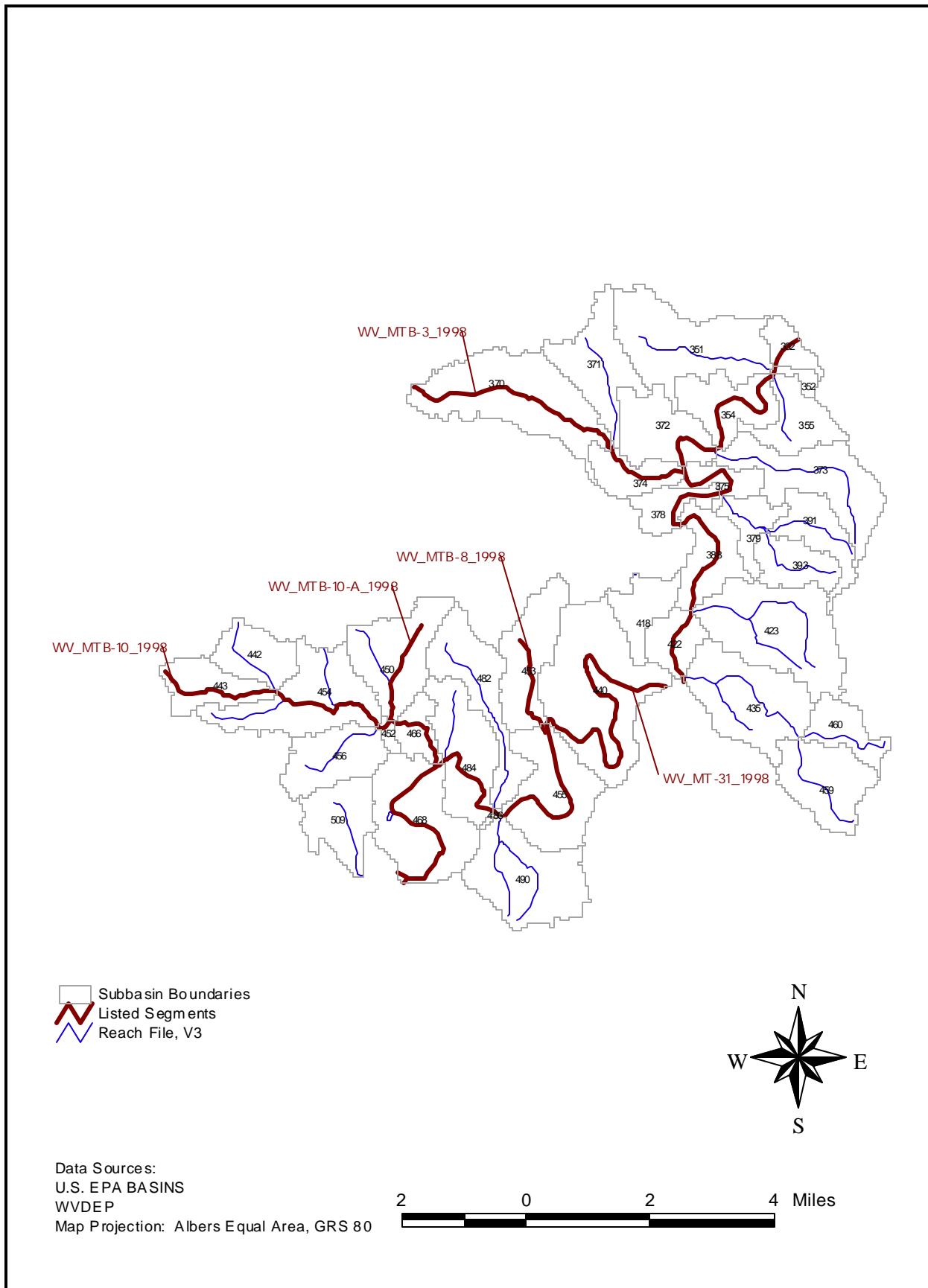


Figure 18. Region 17-Buckhannon River, Upshur County (Northern portion)

Table 1. Impaired waterbodies in Region 17

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Turkey RN	MTB-10	pH, Metals	454,442,443	None	B-1
Sugar RN	MTB-10-A	Metals	450	None	B-1
Buckhannon River	MT-31	Iron	370 374 375 378 373 379 393 388 391 422 442 423 434 443 490 332 352 351 371 354 355 372 450 453 454 452 466 435 460 440 456 482 484 486 459 455 468	11,13,9,12, 6, 8	B-1
Big RN1	MTB-8	Metals	453	None	B-1
Big RN2	MTB-3	Metals	371 370 374	None	B-1

Table 2. Locations of abandoned mines

SWS
442, 443, 450, 374, and 454

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
351	MTB-03	100	100	100	1	17-Sep-97	17-Sep-97
378	MTB-00-{06.6}	50	50	50	1	16-Sep-97	16-Sep-97
379	2C040006L	107	71	142	2	24-Apr-86	12-May-86
388	4TYG12217	266	100	860	14	09-May-83	17-May-84
388	550796	267	20	2400	72	11-Mar-80	08-Jul-88
391	2C040006U	201	141	260	2	24-Apr-86	12-May-86
450	MTB-10-A	64	64	64	1	02-Sep-97	02-Sep-97
468	550583	368	20	2600	61	18-Mar-86	14-Jun-88

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
351	MTB-03	310	310	310	1	17-Sep-97	17-Sep-97
378	MTB-00-{06.6}	160	160	160	1	16-Sep-97	16-Sep-97
388	4TYG12217	369	100	1100	13	09-May-83	17-May-84
388	550796	1055	50	51000	80	11-Mar-80	08-Jul-88
450	MTB-10-A	320	320	320	1	02-Sep-97	02-Sep-97
468	550583	1921	100	70000	61	18-Mar-86	14-Jun-88

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
351	MTB-03	22	22	22	1	17-Sep-97	17-Sep-97
378	MTB-00-{06.6}	71	71	71	1	16-Sep-97	16-Sep-97
388	4TYG12217	154	50	280	14	09-May-83	17-May-84
388	550796	166	0	400	76	11-Mar-80	08-Jul-88
450	MTB-10-A	460	460	460	1	02-Sep-97	02-Sep-97
468	550583	258	100	700	61	18-Mar-86	14-Jun-88

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
370	o002684	2266	474	0.9
370	o004483	1712	358	0.9
370	u007483	533	112	0.9
378	o001183	509	509	4.3
452	s200799	1214	491	1.7
454	s201593	3171	1283	1.7
454	u200597	194	79	1.7
454	u201295	170	69	1.7
456	s201095	1065	431	1.7

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
370	o002684	1378	1378	3.2
370	o004483	1041	1041	3.2
370	u007483	397	397	3.2
378	o001183	378	378	3.2
452	s200799	903	903	3.2
454	s201593	2354	2359	3.2
454	u200597	145	145	3.2
454	u201295	127	127	3.2
456	s201095	793	793	3.2

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
370	o002684	1036	1036	2.0
370	o004483	783	783	2.0
370	u007483	248	248	2.0
378	o001183	234	234	2.0
452	s200799	570	570	2.0

Metals and pH TMDLs for the Tygart Valley River Watershed

454	s201593	1488	1488	2.0
454	u200597	90	90	2.0
454	u201295	79	79	2.0
456	s201095	500	500	2.0

Table 5a. Aluminum baseline conditions and allocations (LAS) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
332	0	0	391	391	0	0	
351	9	9	2769	2769	0	0	
352	0	0	162	162	0	0	
354	7	7	988	988	0	0	
355	0	0	948	948	0	0	
370	276	276	3036	3036	0	0	
371	363	363	1402	1402	0	0	
372	0	0	1297	1297	0	0	
373	0	0	2150	2150	0	0	
374	953	634	794	794	0	0	x
375	12	12	486	486	0	0	
378	0	0	589	589	0	0	
379	7	7	574	574	583	583	
388	0	0	1111	1111	0	0	
391	22	22	955	955	0	0	
393	0	0	815	815	0	0	
422	0	0	605	605	0	0	
423	1	1	2357	2357	0	0	
434	0	0	100	100	0	0	
435	0	0	1894	1894	0	0	
440	161	161	3451	3451	0	0	
442	874	49	821	821	0	0	x
443	3680	381	960	960	0	0	x
450	5978	264	2106	2106	0	0	x
452	7	7	115	115	0	0	
453	631	631	1832	1832	0	0	
454	1812	180	2189	2189	0	0	x
455	14	14	2030	2030	0	0	
456	120	120	1217	1217	0	0	
459	0	0	1406	1406	0	0	
460	0	0	816	816	0	0	
466	11	11	723	723	0	0	
468	250	250	3088	3088	0	0	
482	58	58	2414	2414	0	0	
484	143	143	2443	2443	0	0	
486	4	4	47	47	0	0	
490	17	17	2408	2408	0	0	
Total	15414	3624	51491	51491	583	583	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
332	0	0	366	366	0	0	
351	12	12	2215	2215	0	0	
352	0	0	131	131	0	0	
354	10	10	931	931	0	0	
355	0	0	836	836	0	0	
370	296	296	2304	2304	0	0	
371	500	500	1206	1206	0	0	
372	0	0	1110	1110	0	0	
373	0	0	1919	1919	0	0	
374	1107	1107	655	655	0	0	
375	11	11	431	431	0	0	
378	0	0	472	472	0	0	
379	7	7	503	503	438	438	
388	0	0	937	937	0	0	
391	21	21	808	808	0	0	
393	0	0	729	729	0	0	
422	0	0	557	557	0	0	
423	2	2	2213	2213	0	0	
434	0	0	86	86	0	0	
435	0	0	1777	1777	0	0	
440	215	215	2850	2850	0	0	
442	1642	54	759	759	0	0	x
443	6739	385	803	803	0	0	x
450	11367	360	1587	1587	0	0	x
452	7	7	103	103	0	0	
453	1058	1058	1345	1345	0	0	
454	3344	1613	1747	1747	0	0	x
455	13	13	1665	1665	0	0	
456	111	111	1082	1082	0	0	
459	0	0	1255	1255	0	0	
460	0	0	675	675	0	0	
466	12	12	513	513	0	0	
468	328	328	2197	2197	0	0	
482	54	54	1638	1638	0	0	
484	174	174	1627	1627	0	0	
486	5	5	34	34	0	0	
490	17	17	1896	1896	0	0	
Total	27054	4960	41963	41963	438	438	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
332	0	0	147	147	0	0	
351	7	7	1198	1198	0	0	
352	0	0	71	71	0	0	
354	6	6	365	365	0	0	
355	0	0	377	377	0	0	
370	346	346	1396	1396	0	0	
371	278	278	570	570	0	0	
372	0	0	527	527	0	0	
373	0	0	1000	1000	0	0	
374	1269	1119	333	333	0	0	x
375	18	18	191	191	0	0	
378	0	0	252	252	0	0	
379	11	11	242	242	292	292	
388	0	0	462	462	0	0	
391	33	33	397	397	0	0	
393	0	0	318	318	0	0	
422	0	0	229	229	0	0	
423	1	1	881	881	0	0	
434	0	0	40	40	0	0	
435	0	0	703	703	0	0	
440	134	134	1456	1456	0	0	
442	586	66	317	317	0	0	x
443	2615	538	406	406	0	0	x
450	3891	292	944	944	0	0	x
452	11	11	49	49	0	0	
453	305	305	855	855	0	0	
454	1267	1267	985	985	0	0	x
455	21	21	863	863	0	0	
456	179	179	482	482	0	0	
459	0	0	550	550	0	0	
460	0	0	348	348	0	0	
466	14	14	343	343	0	0	
468	219	219	1537	1537	0	0	
482	87	87	1152	1152	0	0	
484	146	146	1194	1194	0	0	
486	3	3	22	22	0	0	
490	24	24	1061	1061	0	0	
Total	11470	4097	22262	22262	292	292	

Appendix A-18

Region 18

Metals and pH TMDLs for the Tygart Valley River Watershed

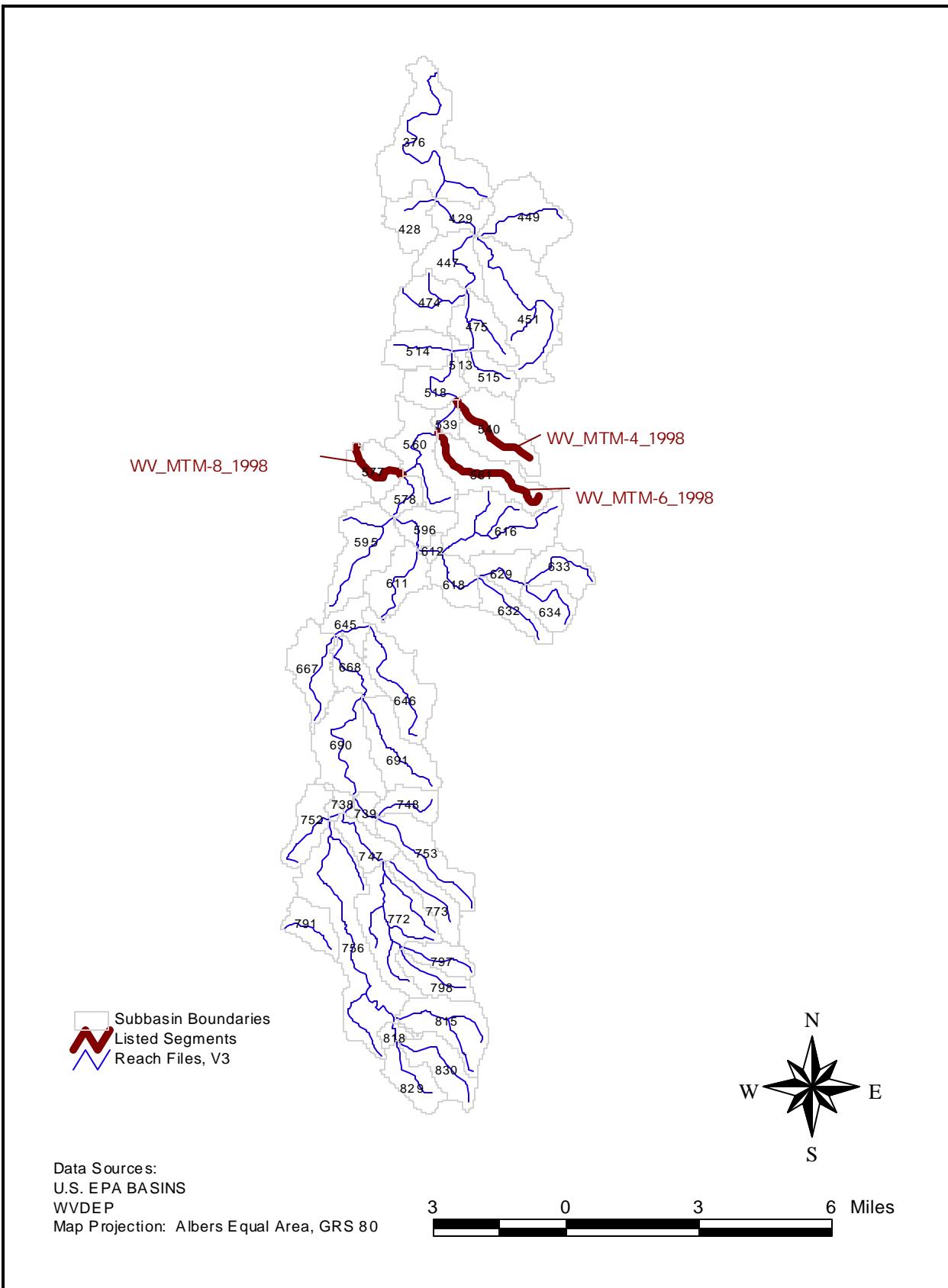


Figure 19. Region 18-Middle Fork River, Upshur County

Table 1. Impaired waterbodies in Region 18

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Whiteoak RN	MTM-8	pH, Metals	577	None	B-2
Hell RN	MTM-6	pH, Metals	561	None	B-2
Devil RN	MTM-4	pH, Metals	540	None	B-2

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)

SWS
540, 561, and 577

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
376	4TYG12218	6893	360	86110	14	09-May-83	17-May-84
376	551108	571	100	3600	35	18-Jun-91	26-Oct-94
428	MTM-00.5-{0.6}	280	280	280	1	25-Aug-97	25-Aug-97
475	551109	587	100	4900	40	18-Jun-91	26-Oct-94
514	MTM-03	230	230	230	1	25-Aug-97	25-Aug-97
540	551110	1360	1	3340	40	27-Jun-91	26-Oct-94
560	MTM-07	130	130	130	1	26-Aug-97	26-Aug-97
561	551111	2193	450	9130	40	27-Jun-91	26-Oct-94
577	551112	7631	400	27000	40	27-Jun-91	26-Oct-94
596	551113	852	100	6370	40	18-Jun-91	26-Oct-94
643	MTM-11-{0.3}	50	50	50	1	26-Aug-97	26-Aug-97

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
376	4TYG12218	8964	100	120600	14	30445	30819
376	551108	876	80	21600	35	33407	34633
428	MTM-00.5-{0.6}	740	740	740	1	35667	35667
475	551109	256	15	900	40	33407	34633
514	MTM-03	3800	3800	3800	1	35667	35667
540	551110	198	15	2500	40	33416	34633
560	MTM-07	430	430	430	1	35668	35668
561	551111	162	60	400	40	33416	34633
577	551112	739	35	1760	40	33416	34633
596	551113	316	15	2900	40	33407	34633
643	385346080065239	675	150	1200	2	29302	29455
643	MTM-11-{0.3}	310	310	310	1	35668	35668

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
376	4TYG12218	1782	170	16370	14	09-May-83	17-May-84
376	551108	534	15	8400	35	18-Jun-91	26-Oct-94
428	MTM-00.5-{0.6}	62	62	62	1	25-Aug-97	25-Aug-97
475	551109	359	5	900	40	18-Jun-91	26-Oct-94
514	MTM-03	4100	4100	4100	1	25-Aug-97	25-Aug-97
540	551110	657	45	1420	40	27-Jun-91	26-Oct-94
560	MTM-07	130	130	130	1	26-Aug-97	26-Aug-97
561	551111	607	20	2550	40	27-Jun-91	26-Oct-94
577	551112	7297	130	21000	40	27-Jun-91	26-Oct-94
596	551113	555	5	4670	40	18-Jun-91	26-Oct-94
643	385346080065239	50	40	60	2	22-Mar-80	22-Aug-80
643	MTM-11-{0.3}	42	42	42	1	26-Aug-97	26-Aug-97

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
595	p202398	24	24	4.3
595	p202898	24	24	4.3
667	p200900	73	73	4.3
667	s005780	802	802	4.3
690	s001282	259	259	4.3

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
595	p202398	18	18	3.2
595	p202898	18	18	3.2
667	p200900	54	54	3.2
667	s005780	796	796	3.2
690	s001282	257	257	3.2

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
595	p202398	11	11	2.0
595	p202898	11	11	2.0
667	p200900	34	34	2.0
667	s005780	173	173	2.0
690	s001282	56	56	2.0

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
376	0	0	3612	3612	0	0	
428	5	5	1251	1251	0	0	
429	0	0	813	813	0	0	
447	0	0	1256	1256	0	0	
448	0	0	3	3	0	0	
449	3	3	2395	2395	0	0	
451	1	1	3329	3329	0	0	
474	0	0	1633	1633	0	0	
475	1	1	1249	1249	0	0	
513	28	28	160	160	0	0	
514	91	91	1063	1063	0	0	
515	135	135	889	889	0	0	
518	1	1	989	989	0	0	
539	741	741	307	307	0	0	
540	8247	961	1799	1799	0	0	x
560	2205	5131	1616	1616	102	102	
561	8199	913	1711	1711	0	0	x
577	15133	157	676	676	4327	563	x
578	0	0	472	472	0	0	
595	416	416	2203	2203	0	0	
596	1	1	767	767	0	0	
611	0	0	1422	1422	0	0	
612	0	0	180	180	0	0	
616	1	1	2515	2515	0	0	
618	0	0	865	865	0	0	
629	29	29	794	794	0	0	
632	122	122	800	800	0	0	
633	152	152	962	962	0	0	
634	3	3	821	821	0	0	
643	0	0	168	168	0	0	
645	0	0	688	688	0	0	
646	0	0	1774	1774	0	0	
667	103	103	1463	1463	0	0	
668	29	29	778	778	0	0	
690	236	236	2219	2219	0	0	
691	0	0	1719	1719	0	0	
738	44	44	200	200	0	0	
739	0	0	311	311	0	0	
745	4	4	112	112	0	0	
747	1	1	759	759	0	0	
748	0	0	706	706	0	0	
752	19	19	1046	1046	0	0	
753	52	52	1551	1551	0	0	
756	1	1	4221	4221	0	0	
772	3	3	2573	2573	0	0	
773	0	0	991	991	0	0	
797	1	1	689	689	0	0	
798	3	3	761	761	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
815	2	2	1622	1622	0	0	
818	0	0	233	233	0	0	
829	0	0	997	997	0	0	
830	7	7	1187	1187	0	0	
Total	36017	9395	63321	63321	4428	665	

Table 5b. Iron baseline conditions and allocations (LAS) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
376	0	0	3654	3654	0	0	
428	10	10	1166	1166	0	0	
429	0	0	792	792	0	0	
447	0	0	1241	1241	0	0	
448	0	0	3	3	0	0	
449	5	5	2301	2301	0	0	
451	2	2	3306	3306	0	0	
474	0	0	1563	1563	0	0	
475	2	2	1252	1252	0	0	
513	52	52	175	175	0	0	
514	168	168	1108	1108	0	0	
515	249	249	953	953	0	0	
518	2	2	1015	1015	0	0	
539	799	799	303	303	0	0	
540	314	314	1808	1808	0	0	
560	205	462	1637	1637	102	102	
561	269	269	1734	1734	0	0	
577	1658	264	694	694	4327	476	x
578	0	0	480	480	0	0	
595	448	448	2147	2147	0	0	
596	2	2	734	734	0	0	
611	0	0	1401	1401	0	0	
612	0	0	184	184	0	0	
616	2	2	2573	2573	0	0	
618	0	0	874	874	0	0	
629	32	32	817	817	0	0	
632	134	134	827	827	0	0	
633	167	167	991	991	0	0	
634	5	5	854	854	0	0	
643	0	0	171	171	0	0	
645	0	0	699	699	0	0	
646	0	0	1829	1829	0	0	
667	191	191	1544	1544	0	0	
668	32	32	817	817	0	0	
690	435	435	2311	2311	0	0	
691	0	0	1773	1773	0	0	
738	81	81	209	209	0	0	
739	0	0	322	322	0	0	
745	8	8	116	116	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
747	2	2	772	772	0	0	
748	0	0	732	732	0	0	
752	36	36	1063	1063	0	0	
753	95	95	1581	1581	0	0	
756	2	2	4187	4187	0	0	
772	5	5	2581	2581	0	0	
773	0	0	1014	1014	0	0	
797	2	2	707	707	0	0	
798	5	5	781	781	0	0	
815	3	3	1669	1669	0	0	
818	0	0	224	224	0	0	
829	0	0	993	993	0	0	
830	13	13	1210	1210	0	0	
Total	5429	4293	63890	63890	4428	578	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
376	0	0	1597	1597	0	0	
428	6	6	567	567	0	0	
429	0	0	370	370	0	0	
447	0	0	551	551	0	0	
448	0	0	1	1	0	0	
449	3	3	1120	1120	0	0	
451	1	1	1487	1487	0	0	
474	0	0	763	763	0	0	
475	1	1	558	558	0	0	
513	30	30	70	70	0	0	
514	99	99	478	478	0	0	
515	146	146	411	411	0	0	
518	1	1	439	439	0	0	
539	537	537	135	135	0	0	
540	2649	1608	792	792	0	0	x
560	2725	6647	705	705	67	67	
561	2618	1576	745	745	0	0	x
577	18677	173	294	294	2880	864	x
578	0	0	205	205	0	0	
595	301	301	993	993	0	0	
596	1	1	340	340	0	0	
611	0	0	660	660	0	0	
612	0	0	79	79	0	0	
616	1	1	1095	1095	0	0	
618	0	0	377	377	0	0	
629	21	21	344	344	0	0	
632	89	89	347	347	0	0	
633	112	112	417	417	0	0	

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
634	3	3	356	356	0	0	
643	0	0	76	76	0	0	
645	0	0	300	300	0	0	
646	0	0	769	769	0	0	
667	112	112	653	653	0	0	
668	21	21	340	340	0	0	
690	255	255	984	984	0	0	
691	0	0	745	745	0	0	
738	47	47	90	90	0	0	
739	0	0	136	136	0	0	
745	5	5	50	50	0	0	
747	1	1	334	334	0	0	
748	0	0	306	306	0	0	
752	21	21	464	464	0	0	
753	56	56	688	688	0	0	
756	1	1	1857	1857	0	0	
772	3	3	1132	1132	0	0	
773	0	0	430	430	0	0	
797	1	1	298	298	0	0	
798	3	3	330	330	0	0	
815	2	2	703	703	0	0	
818	0	0	102	102	0	0	
829	0	0	440	440	0	0	
830	8	8	515	515	0	0	
Total	28556	11890	28039	28039	2947	931	

Appendix A-19

Region 19

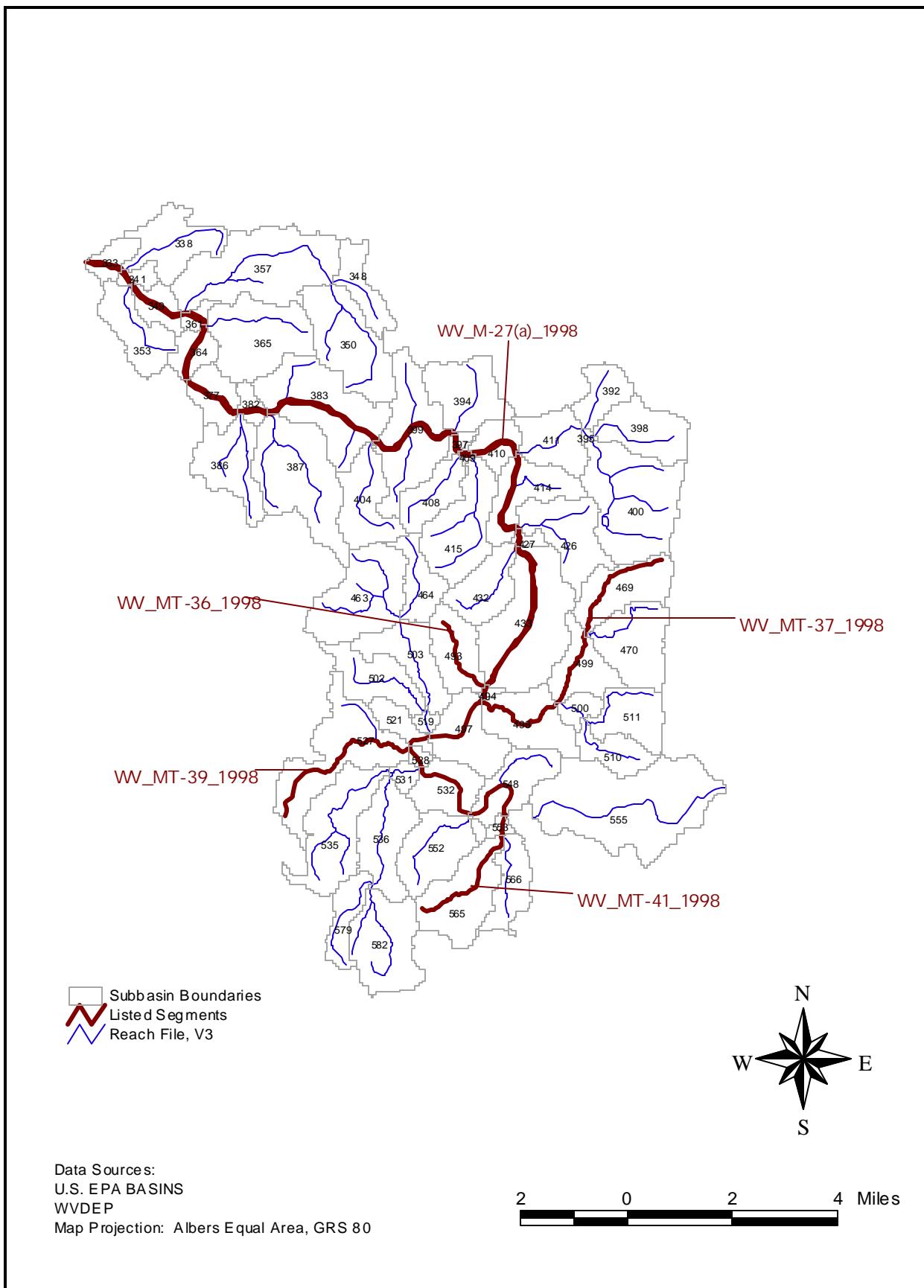


Figure 20. Region 19 - Tygart Valley River, Barbour County (Southern portion)

Table 1. Impaired waterbodies in Region 19

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Tygart R	M-27	pH, Metals	353 364 365 350 382 394 392 377 395 397 409 398 383 411 410 399 386 408 414 427 404 387 400 528 497 510 531 532 548 554 553 527 555 535 552 536 566 565 333 338 341 357 361 349 348 415 426 464 432 469 463 470 493 433 494 499 503 502 519 500 521 511 498 579 582	1, 3, 2, 4	B-2
Island RN	MT-36	pH, Metals	493		B-1
Beaver CK	MT-37	pH, Metals	469, 470, 499, 500, 511, 498, 510		B-2
Laurel RN	MT-39	pH, Metals	536, 579, 582		B-2
Grassy RN	MT-41	pH, Metals	553,566,565		B-1
U.T.	MT-40.?*	pH, Metals			B-1

*Due to uncertainty regarding its exact location, the TMDL for impaired stream segment MT-40? was not calculated.

This does not affect the allocations of the other segments in the subwatershed because each segment allocation has been calculated separately (WVDEP, 2000c).

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)

SWS
498, 499 and 565

Table 3a. Water quality data for aluminum (ug/L).

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
399	550578	567	0.4	2850	69	18-Mar-86	15-Sep-88
414	4TYG11119	534	50	2030	14	09-May-83	17-May-84
433	MT-36	250	250	250	1	15-Sep-97	15-Sep-97
433	MT-37-{0.0}	8200	8200	8200	1	15-Sep-97	15-Sep-97
499	MT-37-{2.9}	440	440	440	1	15-Sep-97	15-Sep-97
555	550792	297	20	2240	57	18-Mar-86	14-Jun-88

Table 3b. Water quality data for iron (ug/L).

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
399	550578	688	100	2250	69	18-Mar-86	15-Sep-88
414	4TYG11119	557	100	1900	14	09-May-83	17-May-84
433	MT-36	1000	1000	1000	1	15-Sep-97	15-Sep-97
433	MT-37-{0.0}	1300	1300	1300	1	15-Sep-97	15-Sep-97
499	MT-37-{2.9}	1000	1000	1000	1	15-Sep-97	15-Sep-97
555	550792	715	150	8000	57	18-Mar-86	14-Jun-88

Table 3c. Water quality for manganese (ug/L).

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
399	550578	181	0	2490	69	18-Mar-86	15-Sep-88
414	4TYG11119	138	10	370	14	09-May-83	17-May-84
433	MT-36	850	850	850	1	15-Sep-97	15-Sep-97
433	MT-37-{0.0}	1500	1500	1500	1	15-Sep-97	15-Sep-97
499	MT-37-{2.9}	890	890	890	1	15-Sep-97	15-Sep-97
555	550792	43	0	140	57	18-Mar-86	14-Jun-88

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources.

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
387	u202687	422	422	4.3
469	p202598	23	23	4.3
499	s200596	1518	1518	4.3
548	o202388	551	551	4.3
552	l009900	92	92	4.3
552	u200988	1063	1063	4.3
555	q200197	8890	NAA*	NAA

* NAA - No allocation required

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
387	u202687	314	314	3.2
469	p202598	17	17	3.2
499	s200596	1130	1130	3.2
548	o202388	410	410	3.2
552	l009900	88	88	3.2
552	u200988	594	594	3.2
555	q200197	6626	NAA*	NAA

* NAA - No allocation required

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation (lbs/yr)	Allocation (mg/L)
387	u202687	196	196	2.0
469	p202598	11	11	2.0
499	s200596	708	708	2.0
548	o202388	253	253	2.0
552	l009900	20	20	2.0
552	u200988	372	372	2.0
555	q200197	4092	NAA*	NAA

* NAA - No allocation required

Metals and pH TMDLs for the Tygart Valley River Watershed

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
333	0	0	403	403	0	0	
338	11	11	1761	1761	0	0	
341	4	4	216	216	0	0	
348	0	0	1178	1178	0	0	
349	4	4	472	472	0	0	
350	0	0	2924	2924	0	0	
353	0	0	1175	1175	0	0	
357	1	1	3932	3932	0	0	
361	4	4	178	178	0	0	
364	20	20	470	470	0	0	
365	0	0	2493	2493	0	0	
377	1	1	689	689	0	0	
382	11	11	239	239	0	0	
383	58	58	2505	2505	1745	1745	
386	25	25	1252	1252	3396	849	x
387	835	768	2344	2344	2617	893	x
392	0	0	830	830	0	0	
394	11	11	1612	1612	0	0	
395	0	0	86	86	0	0	
397	0	0	195	195	0	0	
398	0	0	1239	1239	0	0	
399	15	15	2426	2426	0	0	
400	0	0	2969	2969	0	0	
404	65	65	1339	1339	0	0	
408	0	0	1091	1091	0	0	
409	0	0	66	66	0	0	
410	0	0	671	671	0	0	
411	9	9	1518	1518	0	0	
414	5	5	1481	1481	0	0	
415	0	0	2188	2188	0	0	
426	36	36	1955	1955	0	0	
427	2	2	153	153	0	0	
432	1	1	1272	1272	0	0	
433	176	176	3135	3135	0	0	
463	0	0	2308	2308	0	0	
464	0	0	1112	1112	0	0	
469	231	231	1324	1324	0	0	
470	11	11	1475	1475	0	0	
493	2337	1428	1103	1103	0	0	x
494	10	10	64	64	0	0	
497	557	557	1117	1117	0	0	
498	8654	471	1180	1180	0	0	x
499	4666	1581	892	892	0	0	x
500	35	35	336	336	0	0	
502	0	0	1227	1227	0	0	
503	32	32	1538	1538	0	0	
510	33	33	715	715	0	0	
511	41	41	1024	1024	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
519	50	50	136	136	0	0	
521	58	58	546	546	0	0	
527	12	12	2614	2614	1557	1557	
528	11	11	100	100	0	0	
531	18	18	188	188	0	0	
532	357	357	947	947	0	0	
535	0	0	1943	1943	0	0	
536	120	120	1371	1371	0	0	
548	439	439	984	984	0	0	
552	843	843	1005	1005	0	0	
553	106	106	119	119	0	0	
554	20	20	167	167	0	0	
555	1175	1175	2964	2964	4868	4868	
565	82894	1518	1637	1637	0	0	x
566	155	155	851	851	0	0	
579	4	4	689	689	0	0	
582	464	464	1695	1695	0	0	
Total	104630	9070	79827	79827	14183	9912	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
333	0	0	396	396	0	0	
338	14	14	1632	1632	0	0	
341	5	5	214	214	0	0	
348	0	0	1036	1036	0	0	
349	5	5	467	467	0	0	
350	0	0	2626	2626	0	0	
353	0	0	1151	1151	0	0	
357	2	2	3535	3535	0	0	
361	5	5	174	174	0	0	
364	27	27	468	468	0	0	
365	0	0	2343	2343	0	0	
377	2	2	682	682	0	0	
382	14	14	231	231	0	0	
383	76	76	2356	2356	1745	1745	x
386	34	34	1213	1213	3396	747	x
387	1151	430	2262	2262	2617	872	x
392	0	0	793	793	0	0	
394	14	14	1492	1492	0	0	
395	0	0	77	77	0	0	
397	0	0	171	171	0	0	
398	0	0	1223	1223	0	0	
399	14	14	2272	2272	0	0	
400	0	0	2882	2882	0	0	
404	90	90	1297	1297	0	0	
408	0	0	1013	1013	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
409	0	0	60	60	0	0	
410	0	0	637	637	0	0	
411	10	10	1390	1390	0	0	
414	7	7	1409	1409	0	0	
415	0	0	1986	1986	0	0	
426	49	49	1785	1785	0	0	
427	3	3	142	142	0	0	
432	2	2	1177	1177	0	0	
433	166	166	3025	3025	0	0	
463	0	0	2186	2186	0	0	
464	0	0	1007	1007	0	0	
469	231	231	1305	1305	0	0	
470	14	14	1467	1467	0	0	
493	2487	2487	1063	1063	0	0	
494	14	14	65	65	0	0	
497	751	751	1142	1142	0	0	
498	16917	414	1192	1192	0	0	x
499	9313	30	880	880	0	0	x
500	36	36	334	334	0	0	
502	0	0	1173	1173	0	0	
503	42	42	1423	1423	0	0	
510	35	35	708	708	0	0	
511	40	40	1023	1023	0	0	
519	68	68	135	135	0	0	
521	78	78	524	524	0	0	
527	17	17	2516	2516	1550	1550	
528	15	15	100	100	0	0	
531	25	25	188	188	0	0	
532	485	485	954	954	0	0	
535	0	0	1925	1925	0	0	
536	159	159	1368	1368	0	0	
548	424	424	996	996	0	0	
552	1153	1153	1001	1001	0	0	
553	100	100	123	123	0	0	
554	27	27	175	175	0	0	
555	4606	4606	12648	12648	4875	4875	
565	112937	1187	1648	1648	0	0	x
566	186	186	850	850	0	0	
579	5	5	694	694	0	0	
582	632	632	1693	1693	0	0	
Total	152484	14226	86123	86123	14183	9789	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
333	0	0	150	150	0	0	
338	8	8	776	776	0	0	
341	3	3	79	79	0	0	
348	0	0	557	557	0	0	
349	3	3	171	171	0	0	
350	0	0	1350	1350	0	0	
353	0	0	457	457	0	0	
357	1	1	1758	1758	0	0	
361	3	3	67	67	0	0	
364	15	15	169	169	0	0	
365	0	0	1060	1060	0	0	
377	1	1	257	257	0	0	
382	8	8	90	90	0	0	
383	43	43	1014	1014	1167	1167	
386	19	19	481	481	2271	1067	x
387	639	639	922	922	1750	1453	x
392	0	0	337	337	0	0	
394	8	8	673	673	0	0	
395	0	0	42	42	0	0	
397	0	0	91	91	0	0	
398	0	0	463	463	0	0	
399	23	23	1015	1015	0	0	
400	0	0	1169	1169	0	0	
404	50	50	519	519	0	0	
408	0	0	471	471	0	0	
409	0	0	30	30	0	0	
410	0	0	295	295	0	0	
411	10	10	702	702	0	0	
414	4	4	650	650	0	0	
415	0	0	953	953	0	0	
426	27	27	870	870	0	0	
427	2	2	64	64	0	0	
432	1	1	539	539	0	0	
433	253	253	1264	1264	0	0	
463	0	0	929	929	0	0	
464	0	0	499	499	0	0	
469	230	230	499	499	0	0	
470	8	8	534	534	0	0	
493	1507	1507	477	477	0	0	
494	8	8	26	26	0	0	
497	431	431	466	466	0	0	
498	5342	3160	486	486	0	0	x
499	2801	2208	343	343	0	0	x
500	44	44	122	122	0	0	
502	0	0	482	482	0	0	
503	24	24	683	683	0	0	
510	30	30	263	263	0	0	
511	57	57	366	366	0	0	
519	38	38	55	55	0	0	
521	44	44	240	240	0	0	
527	9	9	1070	1070	1346	1346	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
528	8	8	36	36	0	0	
531	14	14	67	67	0	0	
532	271	271	381	381	0	0	
535	0	0	708	708	0	0	
536	99	99	500	500	0	0	
548	606	606	397	397	0	0	
552	642	642	385	385	0	0	
553	153	153	49	49	0	0	
554	15	15	84	84	0	0	
555	898	898	1226	1226	3212	3212	
565	1060	1060	645	645	0	0	
566	158	158	310	310	0	0	
579	3	3	257	257	0	0	
582	353	353	658	658	0	0	
Total	15973	12456	32750	32750	9745	8244	

Appendix A-20

Region 20

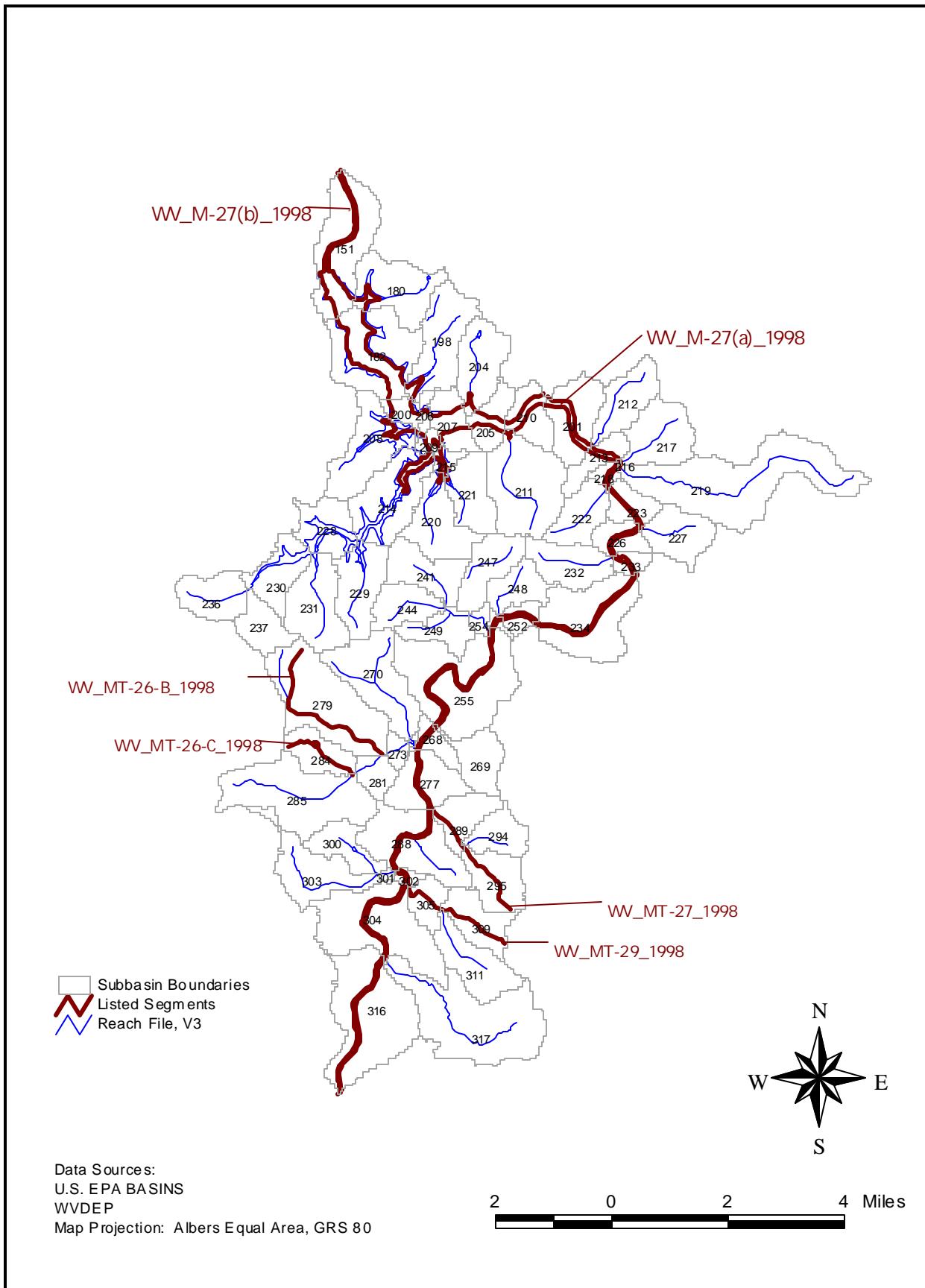


Figure 21. Region 20-Tygart Valley River, Barbour County

Table 1. Impaired waterbodies in Region 20

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Region	Aquatic Life
Tygart River	M-27	pH, Metals	151,180,182,198,204,206,200,2 12,207,205,210,209,216,217,20 1,215,218,213,208,223,221,219, 211,214,222,226,228,220,227,2 33,232,241,247,248,236,230,24 4,254,252,229,251,231,237,249, 234,270,255,274,279,273,268,2 84,269,281,277,285,289,294,30 0,301,302,288,303,295,305,309, 304,311,317,316	14,20,15,10,13,17,11,1 2,5,9,6,8,19,4,18,7,2,3, 1	B-1
Foxgrape RN	MT-26-B	Aluminum	279	None	B-1
Little Hackers CK	MT-26-C	Aluminum	284	None	B-1
Ford RN	MT-27	pH, Metals	289,294,295	None	B-1
Anglins RN	MT-29	pH, Metals	305,309,311	None	B-1

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)

SWS
289,305, and 309

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
151	4TYG20201	668	50	9600	24	08-Apr-81	07-Aug-87
151	4TYG21002	386	50	8500	38	26-Apr-83	07-Aug-87
151	550575	1105	200	3500	8	18-Mar-86	10-Apr-86
182	4TYG21004	374	50	1870	32	26-Apr-83	18-Oct-83
201	4TYG21008	135	100	170	2	31-Aug-83	31-Aug-83
207	4TYG21006	319	50	1870	33	27-Apr-83	18-Oct-83
209	4TYG22006	70	70	70	1	15-Sep-83	15-Sep-83
213	4TYG21009	346	90	2020	34	10-Sep-81	18-Oct-83
220	4TYG22007	100	100	100	1	15-Sep-83	15-Sep-83
232	MT-22	95	95	95	1	09-Sep-97	09-Sep-97
234	4TYGW0111	557	50	2823	37	28-Apr-86	14-Mar-88
234	4TYGW1111	790	50	7040	22	08-Apr-81	07-Aug-87
255	4TYG11112	900	620	1180	2	21-Feb-86	24-Mar-86
255	550576	395	0.1	2060	36	18-Mar-86	02-Jul-87
273	MT-26-{00.4}	50	50	50	1	27-Aug-97	27-Aug-97

279	MT-26-B	180	180	180	1	16-Sep-97	16-Sep-97
279	MT-26-C	50	50	50	1	27-Aug-97	27-Aug-97
288	4TYG11115	592	50	5940	59	08-Apr-81	14-Mar-88
289	4TYG12215	31478	50	118770	53	08-Apr-81	14-Mar-88
302	550577	387	100	1440	64	18-Mar-86	11-Jul-88
302	550822	318	120	600	8	11-Mar-80	10-Sep-84
305	MT-29	90	90	90	1	11-Sep-97	11-Sep-97

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
151	4TYG20201	641	100	6400	24	08-Apr-81	07-Aug-87
151	4TYG21002	513	100	8100	38	26-Apr-83	07-Aug-87
151	550575	803	200	1400	8	18-Mar-86	10-Apr-86
182	4TYG21004	608	100	2900	36	26-Apr-83	18-Oct-83
201	4TYG21008	667	100	1700	3	31-Aug-83	31-Aug-83
207	4TYG21006	415	100	2500	34	27-Apr-83	18-Oct-83
209	4TYG22006	100	100	100	1	15-Sep-83	15-Sep-83
213	4TYG21009	426	100	1800	34	10-Sep-81	18-Oct-83
220	4TYG22007	100	100	100	1	15-Sep-83	15-Sep-83
232	MT-22	122	122	122	1	09-Sep-97	09-Sep-97
234	4TYGW0111	834	100	3900	37	28-Apr-86	14-Mar-88
234	4TYGW1111	1300	100	8500	23	08-Apr-81	07-Aug-87
255	4TYG11112	1100	1100	1100	1	21-Feb-86	21-Feb-86
255	550576	535	0.2	3220	36	18-Mar-86	02-Jul-87
273	MT-26-{00.4}	50	50	50	1	27-Aug-97	27-Aug-97
279	MT-26-B	180	180	180	1	16-Sep-97	16-Sep-97
279	MT-26-C	180	180	180	1	27-Aug-97	27-Aug-97
288	4TYG11115	876	100	7400	58	08-Apr-81	14-Mar-88
289	4TYG12215	61132	100	256400	52	08-Apr-81	14-Mar-88
302	390900080022539	942	180	1700	10	29-Jan-80	02-Sep-80
302	550577	465	100	2520	64	18-Mar-86	11-Jul-88
302	550822	689	180	2600	15	10-Jun-80	10-Sep-84
305	MT-29	500	500	500	1	11-Sep-97	11-Sep-97
317	390723080023139	530	360	700	2	27-Mar-80	23-Aug-80

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
151	4TYG20201	211	10	450	23	08-Apr-81	07-Aug-87
151	4TYG21002	429	10	2600	37	26-Apr-83	07-Aug-87
151	550575	208	106	318	8	18-Mar-86	10-Apr-86
182	4TYG21004	245	10	1240	37	26-Apr-83	18-Oct-83
201	4TYG21008	160	60	350	3	31-Aug-83	31-Aug-83
207	4TYG21006	125	10	450	34	27-Apr-83	18-Oct-83
209	4TYG22006	20	20	20	1	15-Sep-83	15-Sep-83
213	4TYG21009	194	30	1260	34	10-Sep-81	18-Oct-83
220	4TYG22007	10	10	10	1	15-Sep-83	15-Sep-83

232	MT-22	8	8	8	1	09-Sep-97	09-Sep-97
234	4TYGW0111	147	10	380	37	28-Apr-86	14-Mar-88
234	4TYGW1111	164	10	580	21	08-Apr-81	07-Aug-87
255	4TYG11112	220	170	270	2	21-Feb-86	24-Mar-86
255	550576	94	0	500	36	18-Mar-86	02-Jul-87
273	MT-26-{00.4}	60	60	60	1	27-Aug-97	27-Aug-97
279	MT-26-B	140	140	140	1	16-Sep-97	16-Sep-97
279	MT-26-C	78	78	78	1	27-Aug-97	27-Aug-97
288	4TYG11115	247	10	4499	59	08-Apr-81	14-Mar-88
289	4TYG12215	7499	10	31620	51	08-Apr-81	14-Mar-88
302	390900080022539	147	70	210	10	29-Jan-80	02-Sep-80
302	550577	150	0	400	64	18-Mar-86	11-Jul-88
302	550822	143	78	248	14	11-Mar-80	10-Sep-84
305	MT-29	290	290	290	1	11-Sep-97	11-Sep-97
317	390723080023139	70	60	80	2	27-Mar-80	23-Aug-80

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
219	u103790	938	938	4.3
255	p200300	27	27	4.3
277	e011000	445	445	4.3
277	r064900	2502	2502	4.3
279	u001583	2565	1088	2.4
284	o011383	4776	906	0.8
284	s200594	345	66	0.8
285	s200592	1917	1917	4.3
288	e010300	781	781	4.3
288	p071300	0	0	0.0
289	o010283	15	15	4.3
304	d016300	235	235	4.3
304	u001985	235	235	4.3

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
219	u103790	698	698	3.2
255	p200300	20	20	3.2
277	e011000	331	331	3.2
277	r064900	1862	1862	3.2
279	u001583	1909	1909	3.2
284	o011383	926	926	3.2
284	s200594	66	66	3.2
285	s200592	1427	1427	3.2
288	e010300	581	581	3.2

288	p071300	0	0	0.0
289	o010283	14	14	3.2
304	d016300	175	175	3.2
304	u001985	175	175	3.2

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
219	u103790	374	374	2.0
255	p200300	11	11	2.0
277	e011000	177	177	2.0
277	r064900	987	987	2.0
279	u001583	1194	1194	2.0
284	o011383	557	557	2.0
284	s200594	42	42	2.0
285	s200592	766	766	2.0
288	e010300	312	312	2.0
288	p071300	0	0	0.0
289	o010283	3	3	2.0
304	d016300	94	94	2.0
304	u001985	94	94	2.0

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
151	0	0	1186	1186	0	0	
180	0	0	1032	1032	0	0	
182	0	0	1148	1148	0	0	
198	0	0	1096	1096	0	0	
200	0	0	98	98	0	0	
201	0	0	683	683	0	0	
204	0	0	898	898	0	0	
205	7	7	335	335	0	0	
206	0	0	72	72	0	0	
207	0	0	296	296	0	0	
208	0	0	1203	1203	0	0	
209	0	0	68	68	0	0	
210	7	7	369	369	0	0	
211	0	0	1524	1524	0	0	
212	0	0	870	870	0	0	
213	0	0	326	326	0	0	
214	0	0	1110	1110	0	0	
215	0	0	114	114	0	0	
216	0	0	3	3	0	0	
217	0	0	1093	1093	0	0	
218	0	0	98	98	0	0	
219	0	0	3333	3333	0	0	
220	7	7	883	883	0	0	

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
221	0	0	685	685	0	0	
222	0	0	593	593	0	0	
223	0	0	322	322	0	0	
226	0	0	322	322	0	0	
227	0	0	986	986	0	0	
228	0	0	721	721	0	0	
229	0	0	922	922	0	0	
230	7	7	1045	1045	0	0	
231	15	15	970	970	0	0	
232	7	7	804	804	0	0	
233	0	0	161	161	0	0	
234	7	7	1411	1411	0	0	
236	69	69	701	701	0	0	
237	118	118	567	567	0	0	
241	0	0	1002	1002	0	0	
244	0	0	863	863	0	0	
247	0	0	851	851	0	0	
248	0	0	489	489	0	0	
249	0	0	606	606	0	0	
251	0	0	59	59	0	0	
252	45	45	177	177	0	0	
254	0	0	177	177	0	0	
255	218	218	2301	2301	0	0	
268	161	161	231	231	0	0	
269	11	11	631	631	0	0	
270	17	17	1807	1807	0	0	
273	0	0	144	144	0	0	
274	41	41	21	21	0	0	
277	282	282	601	601	0	0	
279	467	120	2849	2849	0	0	x
281	1	1	434	434	0	0	
284	22	22	664	664	0	0	
285	162	162	2261	2261	0	0	
288	35	35	1404	1404	0	0	
289	105230	737	798	798	0	0	x
294	7	7	817	817	0	0	
295	37	37	1054	1054	0	0	
300	1	1	636	636	0	0	
301	6	6	38	38	0	0	
302	30	30	74	74	0	0	
303	71	71	1516	1516	0	0	
304	120	120	2146	2146	0	0	
305	1252	1003	522	522	0	0	x
309	1680	1344	976	976	0	0	x
311	0	0	1240	1240	0	0	
316	245	245	2091	2091	0	0	
317	0	0	2741	2741	0	0	
Total	110389	5310	60269	60269	0	0	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
151	0	0	1205	1205	0	0	
180	0	0	1000	1000	0	0	
182	0	0	1175	1175	0	0	
198	0	0	1068	1068	0	0	
200	0	0	111	111	0	0	
201	0	0	675	675	0	0	
204	0	0	846	846	0	0	
205	7	7	332	332	0	0	
206	0	0	76	76	0	0	
207	0	0	296	296	0	0	
208	0	0	1160	1160	0	0	
209	0	0	77	77	0	0	
210	7	7	363	363	0	0	
211	0	0	1452	1452	0	0	
212	0	0	790	790	0	0	
213	0	0	320	320	0	0	
214	0	0	1108	1108	0	0	
215	0	0	121	121	0	0	
216	0	0	3	3	0	0	
217	0	0	1004	1004	0	0	
218	0	0	99	99	0	0	
219	0	0	3019	3019	0	0	
220	7	7	846	846	0	0	
221	0	0	660	660	0	0	
222	0	0	570	570	0	0	
223	0	0	323	323	0	0	
226	0	0	317	317	0	0	
227	0	0	870	870	0	0	
228	0	0	714	714	0	0	
229	0	0	865	865	0	0	
230	7	7	895	895	0	0	
231	14	14	945	945	0	0	
232	7	7	745	745	0	0	
233	0	0	156	156	0	0	
234	7	7	1339	1339	0	0	
236	64	64	656	656	0	0	
237	146	146	515	515	0	0	
241	0	0	852	852	0	0	
244	0	0	744	744	0	0	
247	0	0	759	759	0	0	
248	0	0	470	470	0	0	
249	0	0	549	549	0	0	
251	0	0	57	57	0	0	
252	42	42	177	177	0	0	
254	0	0	143	143	0	0	
255	201	201	2089	2089	0	0	
268	149	149	223	223	0	0	
269	15	15	591	591	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
270	15	15	1619	1619	0	0	
273	0	0	143	143	0	0	
274	38	38	25	25	0	0	
277	389	389	580	580	0	0	
279	419	419	2575	2575	0	0	
281	2	2	399	399	0	0	
284	27	27	521	521	0	0	
285	196	196	2073	2073	0	0	
288	32	32	1381	1381	0	0	
289	236075	708	822	822	0	0	x
294	7	7	771	771	0	0	
295	34	34	1024	1024	0	0	
300	2	2	592	592	0	0	
301	9	9	40	40	0	0	
302	41	41	79	79	0	0	
303	94	94	1345	1345	0	0	
304	155	155	1958	1958	0	0	
305	1668	672	537	537	0	0	x
309	2237	895	973	973	0	0	x
311	0	0	1191	1191	0	0	
316	293	293	1997	1997	0	0	
317	0	0	2496	2496	0	0	
Total	242406	4701	56513	56513	0	0	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Strip mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
151	0	0	640	640	0	0	
180	0	0	582	582	0	0	
182	0	0	647	647	0	0	
198	0	0	620	620	0	0	
200	0	0	58	58	0	0	
201	0	0	358	358	0	0	
204	0	0	527	527	0	0	
205	11	11	183	183	0	0	
206	0	0	41	41	0	0	
207	0	0	159	159	0	0	
208	0	0	703	703	0	0	
209	0	0	41	41	0	0	
210	11	11	191	191	0	0	
211	0	0	831	831	0	0	
212	0	0	507	507	0	0	
213	0	0	173	173	0	0	
214	0	0	609	609	0	0	
215	0	0	64	64	0	0	

SWS	AML		Nonpoint		Strip mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
216	0	0	1	1	0	0	
217	0	0	664	664	0	0	
218	0	0	53	53	0	0	
219	0	0	2029	2029	0	0	
220	11	11	481	481	0	0	
221	0	0	370	370	0	0	
222	0	0	316	316	0	0	
223	0	0	167	167	0	0	
226	0	0	175	175	0	0	
227	0	0	616	616	0	0	
228	0	0	417	417	0	0	
229	0	0	503	503	0	0	
230	11	11	659	659	0	0	
231	22	22	525	525	0	0	
232	11	11	450	450	0	0	
233	0	0	89	89	0	0	
234	11	11	750	750	0	0	
236	101	101	381	381	0	0	
237	117	117	317	317	0	0	
241	0	0	584	584	0	0	
244	0	0	541	541	0	0	
247	0	0	486	486	0	0	
248	0	0	258	258	0	0	
249	0	0	359	359	0	0	
251	0	0	35	35	0	0	
252	68	68	90	90	0	0	
254	0	0	104	104	0	0	
255	324	324	1283	1283	0	0	
268	240	240	120	120	0	0	
269	9	9	354	354	0	0	
270	25	25	1143	1143	0	0	
273	0	0	80	80	0	0	
274	61	61	11	11	0	0	
277	216	216	336	336	0	0	
279	383	383	1586	1586	0	0	
281	1	1	272	272	0	0	
284	23	23	340	340	0	0	
285	167	167	1374	1374	0	0	
288	52	52	876	876	0	0	
289	36862	922	371	371	0	0	x
294	11	11	335	335	0	0	
295	55	55	409	409	0	0	
300	1	1	380	380	0	0	
301	5	5	25	25	0	0	
302	23	23	40	40	0	0	
303	59	59	987	987	0	0	
304	108	108	1311	1311	0	0	
305	835	835	212	212	0	0	
309	1119	1119	414	414	0	0	
311	0	0	485	485	0	0	
316	258	258	1232	1232	0	0	

SWS	AML		Nonpoint		Strip mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
317	0	0	1656	1656	0	0	
Total	41211	5271	33983	33983	0	0	

A Appendix A-21

Region 21

Metals and pH TMDLs for the Tygart Valley River Watershed

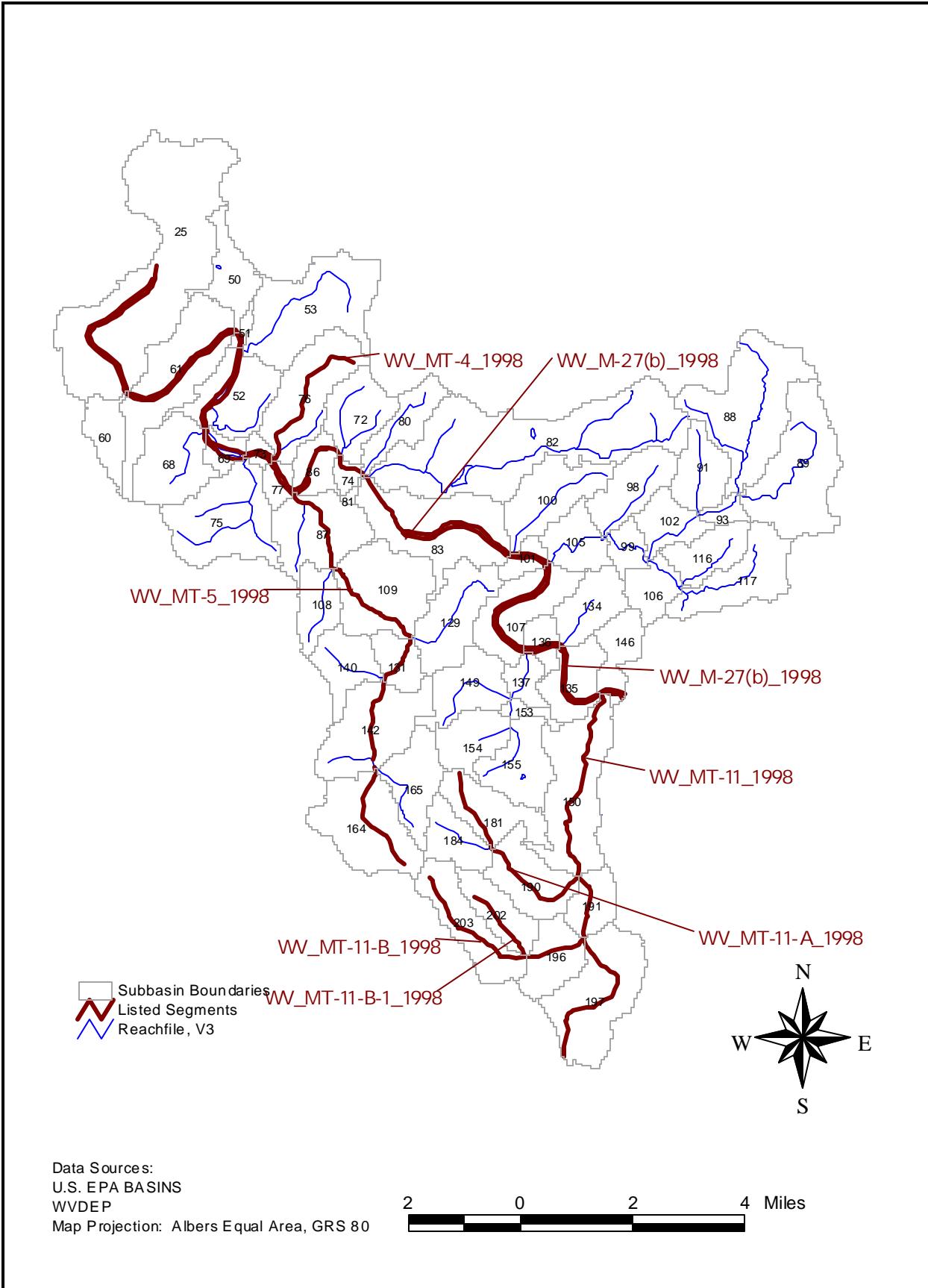


Figure 22. Region 21-The most downstream portion of the Tygart Valley River, Taylor County

Table 1. Impaired waterbodies in Region 21

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Berkely RN	MT-11	pH, Metals	150,191,197,196, 203, 202,190, 184, 181		B-1
Berry RN	MT-11B-1	pH , Metals	202		B-1
Long RN	MT-11-B	pH , Metals	196,203,202		B-1
Shelby RN	MT-11-A	pH, Metals	190,184,181		B-1
Goose CK	MT-4	pH, Metals	76		B-1
Lost RN	MT-5	pH, Metals	87,108,109,129,131,140,142,164,165		B-1
Tygart River	M-27-(b)	pH, Metals	50,51,53,25,52,76,72,73,80,69,60,86,7 4,88,61,81,82,68,77,91,93,98,89,100,1 02,75,105,101,99,87,116,83,117,106,1 09,134,108,107,129,136,131,137,146, 135,140,149,153,142,154,155,165,181 ,184,150,164,190,191,202,203,196,19 7	1,2,3,4,5,6,7,8, 9,10,11,12,13,1 4,15,16,17,18,1 9,20	B-1

Table 2. Locations of abandoned mines (seep, deep mine, and/or leaching)

SWS
181, 202, and 203

Table 3a. Water quality data for aluminum

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
100	MT-07	50	50	50	1	26-Aug-97	26-Aug-97
105	MT-08	50	50	50	1	26-Aug-97	26-Aug-97
135	4TYG13019	314	80	650	17	08-Apr-81	02-Feb-84
146	550451	290	80	760	10	11-Mar-80	12-Sep-84
190	MT-11-A	50	50	50	1	26-Aug-97	26-Aug-97
196	MT-11-B	360	360	360	1	26-Aug-97	26-Aug-97
197	MT-11-{06.63}	130	130	130	1	27-Aug-97	27-Aug-97
202	MT-11-B-1	130	130	130	1	26-Aug-97	26-Aug-97
25	4OPW12010	152	50	320	8	22-Aug-83	24-Aug-92
25	4OPW12011	150	150	150	1	26-Aug-85	26-Aug-85
52	4TYG13006	286	50	1280	18	08-Apr-81	15-May-86
52	550574	358	20	1940	143	11-Mar-80	14-Jun-95
52	WA96-M03	523	50	1200	12	12-Mar-96	03-Dec-98
76	MT-04	1200	1200	1200	1	25-Feb-97	25-Feb-97
91	MT-12-{10.20}	7300	7300	7300	1	02-Sep-97	02-Sep-97

Table 3b. Water quality data for iron

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
100	MT-07	87	87	87	1	26-Aug-97	26-Aug-97
105	MT-08	220	220	220	1	26-Aug-97	26-Aug-97
135	4TYG13019	315	100	800	17	08-Apr-81	02-Feb-84
146	550451	463	130	1240	20	11-Mar-80	12-Sep-84
190	MT-11-A	180	180	180	1	26-Aug-97	26-Aug-97
196	MT-11-B	1100	1100	1100	1	26-Aug-97	26-Aug-97
197	MT-11-{06.63}	370	370	370	1	27-Aug-97	27-Aug-97
202	MT-11-B-1	500	500	500	1	26-Aug-97	26-Aug-97
25	4OPW12010	168	100	400	7	04-Aug-86	24-Aug-92
25	4OPW12011	100	100	100	1	26-Aug-85	26-Aug-85
51	392615080075539	1719	150	6900	9	17-Jan-80	18-Sep-80
52	4TYG13006	289	100	1200	18	08-Apr-81	15-May-86
52	550574	497	20	8400	150	11-Mar-80	14-Jun-95
52	WA96-M03	607	65	1340	12	12-Mar-96	03-Dec-98
76	MT-04	430	430	430	1	25-Feb-97	25-Feb-97
91	MT-12-{10.20}	170	170	170	1	02-Sep-97	02-Sep-97

Table 3c. Water quality data for manganese

SWS	WQ station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
100	MT-07	20	20	20	1	26-Aug-97	26-Aug-97
105	MT-08	20	20	20	1	26-Aug-97	26-Aug-97
135	4TYG13019	224	20	500	17	08-Apr-81	02-Feb-84
146	550451	195	60	434	18	11-Mar-80	14-Jun-84
190	MT-11-A	91	91	91	1	26-Aug-97	26-Aug-97
196	MT-11-B	420	420	420	1	26-Aug-97	26-Aug-97
197	MT-11-{06.63}	87	87	87	1	27-Aug-97	27-Aug-97
202	MT-11-B-1	450	450	450	1	26-Aug-97	26-Aug-97
25	4OPW12010	76	50	134	8	22-Aug-83	24-Aug-92
25	4OPW12011	60	60	60	1	26-Aug-85	26-Aug-85
51	392615080075539	176	80	310	8	17-Jan-80	18-Sep-80
52	4TYG13006	115	10	250	18	08-Apr-81	15-May-86
52	550574	177	20	800	152	11-Mar-80	14-Jun-95
52	WA96-M03	120	10.2	190	12	12-Mar-96	03-Dec-98
76	MT-04	630	630	630	1	25-Feb-97	25-Feb-97
91	MT-12-{10.20}	2100	2100	2100	1	02-Sep-97	02-Sep-97

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
76	o100187	5302	1539	1.2
76	r074600	2627	763	1.2
77	e012500	3480	3480	4.3
77	r074700	968	968	4.3

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
76	o100187	3946	1110	0.9
76	r074600	1955	550	0.9
77	e012500	2590	2590	3.2
77	r074700	721	721	3.2

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	Permit ID	Baseline (lbs/yr)	Allocation(lbs/yr)	Allocation (mg/L)
76	o100187	2423	2108	1.7
76	r074600	1201	1045	1.7
77	e012500	1388	1388	2.0
77	r074700	866	382	2.0

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
100	0	0	1235	1235	0	0	
101	0	0	212	212	0	0	
102	0	0	601	601	0	0	
105	0	0	626	626	0	0	
106	0	0	622	622	0	0	
107	0	0	952	952	0	0	
108	0	0	512	512	0	0	
109	0	0	1475	1475	0	0	
116	0	0	753	753	0	0	
117	0	0	1307	1307	0	0	
129	0	0	1192	1192	0	0	
131	0	0	470	470	0	0	
134	0	0	736	736	0	0	
135	0	0	687	687	0	0	
136	0	15	271	271	0	0	
137	0	4	324	324	0	0	
140	0	0	790	790	0	0	
142	0	0	1715	1715	0	0	
146	0	0	706	706	0	0	
149	18	18	1027	1027	0	0	x

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
150	22	22	1893	1893	0	0	x
153	0	0	174	174	0	0	
154	7	7	933	933	0	0	x
155	0	0	1252	1252	0	0	
164	38	38	1659	1659	0	0	
165	30	30	1229	1229	0	0	
181	964	33	1071	1071	2619	916	x
184	83	83	673	673	0	0	
190	16	16	1049	1049	0	0	
191	17	17	503	503	0	0	
196	5	5	674	674	0	0	
197	1	1	1980	1980	0	0	
202	695	399	682	682	0	0	x
203	763	88	1081	1081	978	978	
25	213	213	4456	4456	0	0	
50	0	0	639	639	0	0	
51	0	0	75	75	0	0	
52	312	312	1124	1124	0	0	
53	0	0	2095	2095	0	0	
60	7	7	616	616	0	0	
61	7	7	1784	1784	0	0	
68	7	7	1382	1382	0	0	
69	71	71	238	238	0	0	
72	34	34	848	848	0	0	
73	97	97	143	143	0	0	
74	11	11	104	104	0	0	
75	0	0	1785	1785	0	0	
76	40	40	1302	1302	0	0	
77	12	12	9	9	0	0	
80	22	22	608	608	0	0	
81	0	0	36	36	0	0	
82	0	0	4520	4520	0	0	
83	51	51	1547	1547	0	0	
86	0	0	383	383	0	0	
87	0	0	1066	1066	0	0	
88	0	0	2120	2120	0	0	
89	0	0	2253	2253	0	0	
91	0	0	646	646	0	0	
93	0	0	181	181	0	0	
98	0	0	774	774	0	0	
99	0	0	325	325	0	0	
Total	3595	1693	62127	62127	3597	1894	

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
100	0	0	1111	1111	0	0	
101	0	0	204	204	0	0	
102	0	0	548	548	0	0	
105	0	0	600	600	0	0	
106	0	0	553	553	0	0	
107	0	0	914	914	0	0	
108	0	0	499	499	0	0	
109	0	0	1397	1397	0	0	
116	0	0	698	698	0	0	
117	0	0	1187	1187	0	0	
129	0	0	1111	1111	0	0	
131	0	0	440	440	0	0	
134	0	0	691	691	0	0	
135	0	0	713	713	0	0	
136	0	0	264	264	0	0	
137	0	0	298	298	0	0	
140	0	0	717	717	0	0	
142	0	0	1565	1565	0	0	
146	0	0	669	669	0	0	
149	17	17	916	916	0	0	
150	20	20	1801	1801	0	0	
153	0	0	159	159	0	0	
154	7	7	848	848	0	0	
155	0	0	1109	1109	0	0	
164	35	35	1526	1526	0	0	
165	28	28	1075	1075	0	0	
181	1055	34	926	926	2618	1570	x
184	76	76	625	625	0	0	
190	14	14	963	963	0	0	
191	15	15	496	496	0	0	
196	7	7	650	650	0	0	
197	2	2	1802	1802	0	0	
202	865	309	638	638	0	0	x
203	965	694	999	999	978	978	
25	196	196	4855	4855	0	0	
50	0	0	614	614	0	0	
51	0	0	76	76	0	0	
52	430	430	1083	1083	0	0	
53	0	0	1961	1961	0	0	
60	7	7	598	598	0	0	
61	7	7	1721	1721	0	0	
68	6	6	1248	1248	0	0	
69	97	97	243	243	0	0	
72	31	31	799	799	0	0	
73	133	133	143	143	0	0	
74	11	11	104	104	0	0	
75	0	0	1641	1641	0	0	
76	55	55	1183	1183	0	0	
77	17	17	14	14	0	0	
80	21	21	582	582	0	0	
81	0	0	36	36	0	0	

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
82	0	0	4071	4071	0	0	
83	47	47	1516	1516	0	0	
86	72	72	368	368	0	0	
87	0	0	1042	1042	0	0	
88	0	0	1972	1972	0	0	
89	0	0	2017	2017	0	0	
91	0	0	626	626	0	0	
93	0	0	176	176	0	0	
98	0	0	744	744	0	0	
99	0	0	309	309	0	0	
Total	4237	2389	58455	58455	3596	2549	

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
100	0	0	713	713	0	0	
101	0	0	112	112	0	0	
102	0	0	333	333	0	0	
105	0	0	349	349	0	0	
106	0	0	365	365	0	0	
107	0	0	503	503	0	0	
108	0	0	265	265	0	0	
109	0	0	821	821	0	0	
116	0	0	448	448	0	0	
117	0	0	778	778	0	0	
129	0	0	689	689	0	0	
131	0	0	267	267	0	0	
134	0	0	401	401	0	0	
135	0	0	380	380	0	0	
136	0	0	149	149	0	0	
137	0	0	175	175	0	0	
140	0	0	449	449	0	0	
142	0	0	1028	1028	0	0	
146	0	0	439	439	0	0	
149	27	27	600	600	0	0	
150	33	33	1071	1071	0	0	
153	0	0	97	97	0	0	
154	11	11	593	593	0	0	
155	0	0	798	798	0	0	
164	56	56	966	966	0	0	
165	45	45	783	783	0	0	
181	512	47	661	661	1761	1039	x
184	123	123	393	393	0	0	
190	23	23	600	600	0	0	
191	25	25	269	269	0	0	
196	4	4	355	355	0	0	

Metals and pH TMDLs for the Tygart Valley River Watershed

SWS	AML		Nonpoint		Revoked mine		Requires Reduction
	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	Baseline (lbs/yr)	Allocation (lbs/yr)	
197	1	1	1167	1167	0	0	
202	1024	608	395	395	0	0	x
203	1084	424	616	616	657	657	x
25	316	316	2602	2602	0	0	
50	0	0	352	352	0	0	
51	0	0	38	38	0	0	
52	239	239	689	689	0	0	
53	0	0	1217	1217	0	0	
60	11	11	391	391	0	0	
61	11	11	1058	1058	0	0	
68	10	10	855	855	0	0	
69	54	54	147	147	0	0	
72	51	51	465	465	0	0	
73	74	74	97	97	0	0	
74	17	17	53	53	0	0	
75	0	0	1021	1021	0	0	
76	30	30	812	812	0	0	
77	9	9	4	4	0	0	
80	33	33	330	330	0	0	
81	0	0	18	18	0	0	
82	0	0	2561	2561	0	0	
83	76	76	810	810	0	0	
86	40	40	206	206	0	0	
87	0	0	557	557	0	0	
88	0	0	1160	1160	0	0	
89	0	0	1341	1341	0	0	
91	0	0	336	336	0	0	
93	0	0	97	97	0	0	
98	0	0	412	412	0	0	
99	0	0	179	179	0	0	
Total	3938	2398	35837	35837	2418	1696	

Metals and pH TMDLs for the Tygart Valley River Watershed